The OIL AND GAS JOURNAL

Rates: Domestic, 1 year, $6.00; 6 months, $3.00. Canadian and foreign, 1 year, $7.00; 6 months, $3.50. All subscriptions are payable in advance.

Extra copies of special issues are reserved for subscribers' needs and may be purchased by subscribers at the price of 50 cents per copy.

APRIL 29, 1937 VOL. 35, NO. 50

Table of Contents

News Developments

Summary ... 19
Methods of Raising Octane Values Lead Discussion at Hot Springs Meeting—*By W. T. Ziegenhain* ... 20-21
Sparks From the News ... 22
Big Leasing Campaign Under Way in Illinois Coal Basin—*By James McIntyre* ... 23
May Crude Recommendation 89,900 Barrels Higher ... 24
Expansible Houses on Wheels Await Gasoline Consumers—*By W. T. Ziegenhain* ... 25
Humble Employes Organizing Own Bargaining Federation ... 26
Open Extensive Area in Bemis Territory—*By Dal Dalrymple* ... 27
Madison Witnesses Released From Oath of Secrecy ... 28
Congress Faces Dilemma While Waiting for Administration—*By Henry D. Ralph* ... 29
Welded Joint Casing Run in Deep Oklahoma Well—*By L. G. E. Bignell* ... 30
E. H. Moore Ran Scale of Oil Experience—*By T. F. Smiley* ... 31
Obituaries ... 35
News From Foreign Lands ... 36
Natural Gas News and Natural Gasoline ... 38
Pipe Line Activity and Refinery Projects ... 39
Editorial ... 42

Engineering—Operating

Deeper Drilling in North Louisiana Presents Unique Problems—*By Mitchell Tucker* ... 44
Variety of Finished Oils Blended in Sun Gulf Coast Plant—*By George Weber* ... 47
Chemical, Physical Methods of Removing Salt From Crudes—*By E. R. Jones* ... 51
Extracting Salts From Charging Stocks by Electrical Process—*By G. B. Hanson* ... 53
Economics of Treating and Inhibiting Gasoline—*By Dr. P. S. Nisson and W. B. Ross* ... 56
Use of Light-Weight Surface Casing in Mid-Continent—*By L. S. Allen* ... 61
Operating Ideas ... 63
Wild Well Brought Under Control After Two Failures—*By Paul Reed* ... 64
Technical Questions—*By C. K. Francis, Ph. D.* ... 65
Problems From Readers—*By L. G. E. Bignell* ... 66

Field Operations

Field Operations Summarized ... 69
Eastern Fields—*By Staff Correspondent* ... 70
Oklahoma—*By Dal Dalrymple* ... 71
Gulf Coast—*By F. L. Singleton* ... 75-77
Michigan—*By Paul A. Elliott* ... 76
East Texas—*By L. E. Bredberg* ... 78
Kansas—*By Dal Dalrymple* ... 79
New York-Pennsylvania Gas Field ... 82
Rocky Mountain Area—*By Tolbert R. Ingram* ... 83
California—*By L. P. Stockman* ... 87
Central West—*By George A. Whitney* ... 89
Canada—*By Victor Lauriston* ... 90
West and North Texas—*By L. E. Bredberg* ... 91
Southwest Texas—*By George Weber* ... 94
North Louisiana-Arkansas—*By Mitchell Tucker* ... 95
Wildcat Operations ... 99 to 107

Markets and Prices

Group 3 Market—*By T. F. Smiley* ... 110
New York Market—*By H. Stanley Norman* ... 111
A.P.I. Refinery Report ... 111
Tank-wagon Markets ... 112
Refinery Prices ... 113
Crude Prices ... 88-114

Additional Features

Gulf Coast Port Shipments ... 98
Personal Paragraphs ... 108-109
Record of Oil Securities ... 115
New and Improved Equipment ... 116-117
Oil Man's Calendar ... 118
Classified Advertising ... 118-119
Advertisers' Index ... 120

Staff of The Oil and Gas Journal

P. C. Lauinger, *President*; C. O. Willson, *Editor*; W. T. Anderson, *Managing Editor*; James McIntyre, *Consulting Editor*

W. T. Ziegenhain, *Engineering Editor*; L. G. E. Bignell, *Prod. Engr. Editor*; C. K. Francis, Ph.D., *Technical Editor*; W. L. Nelson, *Metallurgical Editor*; T. F. Smiley, *Associate Editor*; Dal Dalrymple, *Associate Editor*; D. H. Stormont, *Associate Editor*; M. F. Baldwin, *Circulation Manager*

S. H. Rourke, *Business Manager*

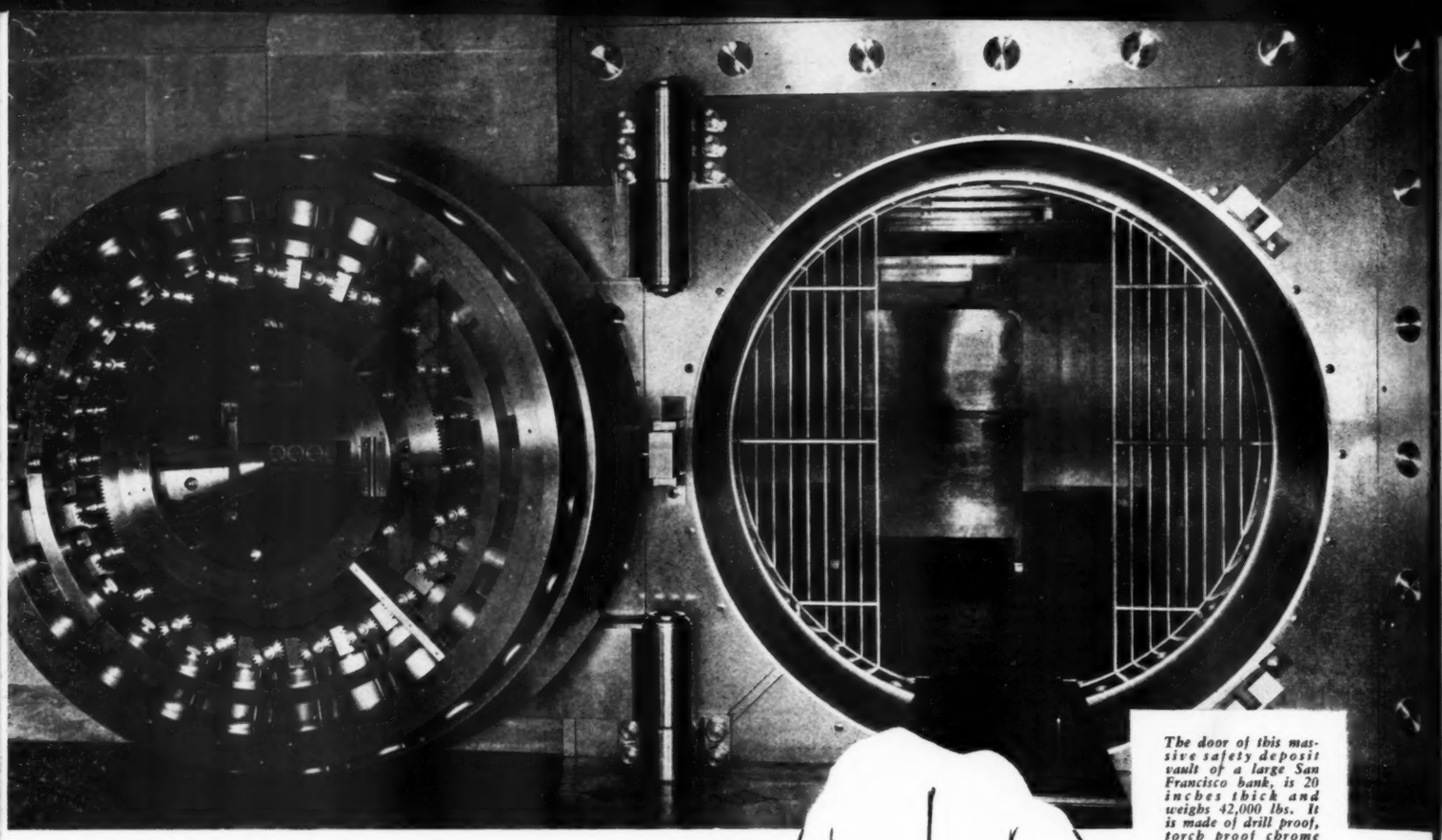
Neil Williams, *Sterling Bldg., Houston*; George Weber, *Sterling Bldg., Houston*; F. L. Singleton, *Sterling Bldg., Houston*; L. E. Bredberg, *Petroleum Bldg., Fort Worth*; T. R. Ingram, *State Office Bldg., Denver*; L. P. Stockman, *Union Oil Bldg., Los Angeles*; T. P. Sanders, *Union Oil Bldg., Los Angeles*

Mitchell Tucker, *City Bank Bldg., Shreveport*; P. A. Elliott, *Chronicle Bldg., Muskegon*; H. S. Norman, *415 Lexington Ave., New York City*; H. D. Ralph, *Natl. Press Bldg., Washington*; J. P. O'Donnell, *Derrick Bldg., Oil City*; G. A. Whitney, *P.O. Box 98, Toledo*; Victor Lauriston, *Box 136, Chatham, Ontario, Canada*; E. Klappenbach, *Advertising Manager*

ADVERTISING REPRESENTATIVES: C. L. Cain, *415 Lexington Ave., New York City*; J. H. Tinkham, *1406 S. Grand Ave., Los Angeles*; Howard Markt, *Leader Bldg., Cleveland*; C. R. Farmer, *Petroleum Bldg., Chicago*; Wayne Rives, *Sterling Bldg., Houston*; K. J. Langley, *114 W. 2nd St., Tulsa*

European Representative: Arthur J. Chambers, 1 Laudahnstrasse, Koln-Lindenthal, Cologne, Germany

Copyright, 1937, by The Petroleum Publishing Co.



The door of this massive safety deposit vault of a large San Francisco bank, is 20 inches thick and weighs 42,000 lbs. It is made of drill proof, torch proof chrome steel and is equipped with two combination locks and a four-movement time lock. Photo of Herring, Hall Marvin Safe courtesy of Shealy Safe Co.

PENNIES *Made it Safe*

Behind this massive vault door lies a king's ransom, yet it is not the 20-inch solid steel door with imposing hinges that safeguards the treasure within—but rather the pennies that make it safe.

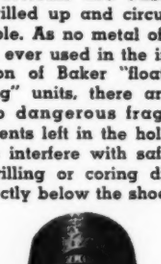
It is those additional pennies that were spent for the safest, most efficient combination lock that man could devise. Mr. Banker, being a smart business man, knows that any vault is no stronger than its combination and that a few pennies more spent for a good burglar-proof lock is just common sense.

And when it comes to smart business men, Mr. Oil Well Owner can't be overlooked. He knows when there is a cementing job to be done, with his entire investment in well and equipment often depending upon the success or failure of that cement job, that it's no time to take chances—but that it is time to specify BAKER. He knows that it is those additional "pennies" (spent for Baker's extra measure of safety and efficiency) that makes his investment safe.

If you are not thoroughly familiar with the Baker line of successful equipment for guiding, floating and cementing casing in a well, it will pay you to investigate now. Complete construction and operating details are contained in the large Baker Catalog, which we will be glad to send you upon request—or you can refer to pages 189 to 206 of your 1937 Composite Catalog.

BAKER GIVES YOU DRILLABILITY

Complete drillability is one of the big features of Baker Cement Equipment. Valve assembly and plug are constructed of Bakelite set on end in Baker-Formula Concrete and both materials are easily drilled out, drilled up and circulated out of the hole. As no metal of any description is ever used in the internal construction of Baker "floating" units, there are no dangerous fragments left in the hole to interfere with safe drilling or coring directly below the shoe.



BAKER

CEMENT EQUIPMENT

For Guiding, Floating, Cementing Strings of Casing

BAKER OIL TOOLS, INC.

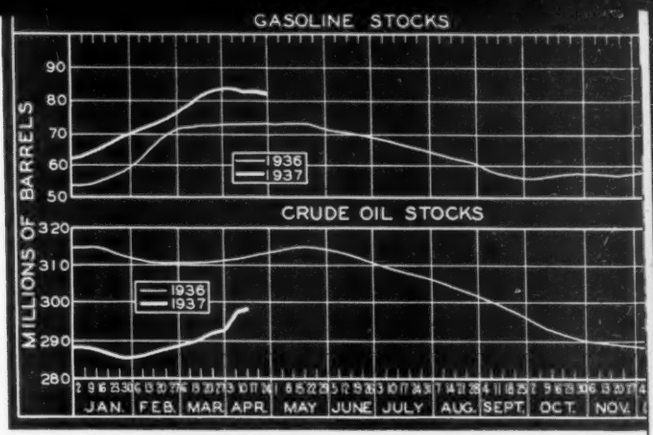
Telephone LAfayette 0153 – HUNTINGTON PARK, CALIFORNIA – 2959 E. Slauson Ave.
Telephone WAyside 2108 – HOUSTON PLANT AND OFFICE – 6023 Navigation Blvd.

MID-CONTINENT OFFICE AND WAREHOUSE:
Telephone 2-8083 – Tulsa, Oklahoma – 312 East Fourth Street

WEST TEXAS BRANCH OFFICE
Odessa, Texas – Telephone 217

EXPORT SALES OFFICE
Rm. 1914 – 19 Rector St., New York City
Tel. Digby 4-5515

ROCKY MOUNTAIN HEADQUARTERS
Tel. 2230–Casper, Wyoming – Box 1464



Industry in Doubt About Stocks

NEW peaks in crude production have been recorded with such regularity in recent months that no astonishment is evoked by figures which reveal a fresh height was achieved in the week ending April 24, but the industry is growing dubious over rising stocks. The average daily output, 3,501,284 barrels, tops that of the preceding week by 38,932 barrels. Bureau of Mines recommendations were scraps of paper in the principal oil-producing states. The daily average of 1,385,585 barrels in Texas exceeded the bureau's estimate of requirements by 87,685 barrels and its own state-fixed allowable by 36,621 barrels. Oklahoma was close behind, its daily average going 61,050 barrels beyond the bureau's recommendation and 50,190 barrels beyond the allowable set by the State Corporation Commission. Kansas passed the bureau's figure by 14,925 barrels. New Mexico kept close to its state-set allowable, but ran 15,010 barrels ahead of the bureau's recommendation. California produced 49,850 barrels in excess of bureau figures and 26,350 more than the recommendation of its committee of oil producers.

CRUDE PRODUCTION *3,501,284 barrels daily average for past week—up 38,932.*

CRUDE STOCKS *297,468,000 barrels as of April 10—up 94,000 barrels.*

GASOLINE STOCKS *82,303,000 barrels as of April 24—down 400,000 barrels.*

REFINERY RUNS *3,125,000 barrels daily average past week—up 70,000 barrels.*

No evidence is in hand that the practice of ignoring Bureau of Mines recommendations will be discontinued. The bureau's estimate of requirements for May sets 1,340,800 barrels as the suggested daily allowable for Texas. This is 42,900 barrels more than its recommendation for April. The Texas Railroad Commission, however, set its own May allowable last week at 1,411,236 barrels, which overshoots the bureau's recommendation 70,436 barrels and is 62,272 barrels higher than the April allowable it set for itself. Oklahoma and Kansas have shown a disposition to treat bureau recommendations with indifference whenever Texas did so. The bureau's May recommendation for Oklahoma is 622,700 barrels daily, 13,100 barrels more than for April. An increase of 4,100 barrels is recommended for Kansas. There seems no reason for supposing the bureau figures will be adopted in either of these states.

The steady rise in crude production, with consequent heavy runs to storage, is viewed no longer with complacency by some leaders in the industry. Uneasiness over possible emergencies that might lie ahead caused large companies to build up big reserves in the last year. Thus far none of the conditions calling for such reserves has developed, but the momentum of production has not been slackened.

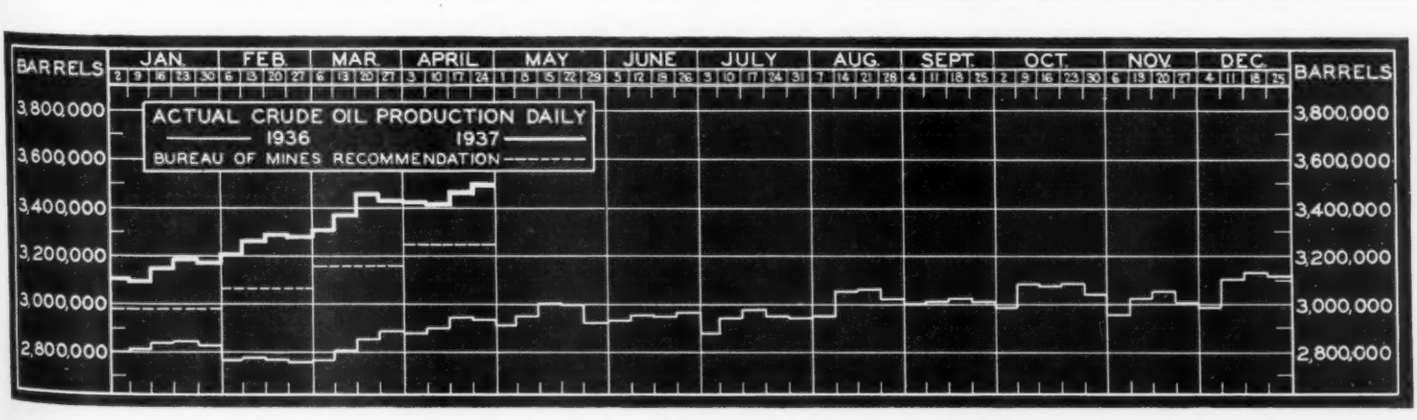
A cheerful tone prevades the refining and marketing divisions as evidences of record-breaking summer business are seen. Demand for gasoline is rising, and motoring weather is expected to bring a sharp upturn.

Daily Average Production for Week

	Apr. 24, 1937	Bur. Mines Apr. est.	Apr. State allowable	Apr. 17, 1937
Oklahoma City	172,400	.....	.....	167,255
Fitts	98,900	.....	.....	94,475
Remainder of State	399,350	.....	.....	395,700
Total Oklahoma	670,650	609,600	620,460	657,400
East Texas	462,350	.....	.....	460,098
West Texas	199,298	.....	.....	199,252
North Central Texas	103,500	.....	.....	103,846
Texas Panhandle	81,597	.....	.....	78,050
East Central Texas	113,450	.....	.....	115,796
Gulf Coast Texas	322,450	.....	.....	317,136
Southwest Texas	102,940	.....	.....	101,747
Total Texas	1,385,585	1,297,900	1,348,964	1,375,925
North Louisiana	72,450	.....	.....	71,940
Gulf Coast Louisiana	176,750	.....	.....	178,650
Total Louisiana	249,200	244,800	235,675	250,590
California	629,350	579,900	*580,000	620,500
Kansas	197,925	183,000	190,300	192,575
Arkansas	27,460	27,400	.....	27,540
Eastern Fields	115,200	115,000	.....	114,100
Michigan	46,634	30,600	.....	42,712
New Mexico	106,410	91,400	106,400	106,980
Rocky Mountain	72,870	64,360	.....	74,030
Total United States	3,501,284	3,243,960	.....	3,462,352

Increase 38,932 bbls. daily.

*Recommendation of Central Committee of California Oil Producers.



BETWEEN SESSIONS—L. D. Mann and M. F. Foster

Methods of Raising Discussion at Hot

By W. T. ZIEGENHAIN

HOT SPRINGS, Ark., Apr. 28.—Mid-Continent refiners must prepare themselves to manufacture economically house-brand motor fuels of 73-octane number. That was the suggestion, at least, presented by Wright W. Gary of M. W. Kellogg Co. before the annual meeting of the Western Petroleum Refiners Association in the Arlington Hotel held on Monday, Tuesday and Wednesday of this week.

Obviously, any change in the standard specifications for gasoline is of vital importance to refiners generally but this particular move would be of more than usual importance to the Mid-Continent group as the plants in this area are relatively small and numerous and to add reforming facilities or increase the lead content of the gasoline they produce would represent a relatively large item in the unit cost of processing.

While the various methods of raising the octane value prompted most of the technical discussion, both in and away from the convention rooms, it did not disrupt the satisfied and rather confident attitude expressed by a majority of those present who indicated that generally speaking, plant operations, sales prices, oil inventories and crude schedules are being maintained on a satisfactory basis and any increase in the cost of operations could be reflected in higher gasoline prices. An equally satisfied attitude could be seen in regard to the progress of the work of the association in the address of President C. M. Boggs who is also president of Kanotex Refining Co. It is apparent that Mr. Boggs will be tendered the presidency of the association for another term.

In his address, Mr. Boggs traced the ups and downs of the Western Petroleum Refiners Association from its beginning 25 years ago and made it clear that the present association was originally organized to serve more effectively the growing number of small Mid-Continent refineries which had to meet the competition offered by refiners in the older areas, the latter being better protected by uniform and advantageous freight rates. He pointed out that the original association was composed almost wholly of nonintegrated companies and he emphasized the similarity of purposes that bound the integrated and nonintegrated members together then and said those same forces bind them together now.

Composed of both integrated and nonintegrated companies, it is only natural some differences of opinion should exist regarding details in the administration of certain functions of the association and it is significant that a meeting of the nonintegrated members has been called for Wednesday afternoon at which a proposed sales agency will be discussed.

Tied on very closely to the operations of a sales agency are, of course, the existing federal and state laws that govern trade practices and the paper presented by Ralph Horween, on "The Antitrust Laws, Opportunities and Responsibilities of Trade Associations" summarized this phase of the proposed work in a most complete manner. In this paper Mr. Horween said:

"The Sherman act was adopted to guard against too little competition, since unrestrained competition is just as much against public policy as too little, both state and federal statutes have been enacted which prohibit many kinds of competition. We now have decisions of the Supreme Court that agreements for concerted action by trade groups which restrict competition among members are not condemned by the Sherman act if the purposes be legitimate and the methods reasonably adopted to carry them out. The federal government must enforce the Sherman act to prevent price fixing, dividing up of territory boycotting, imposing arbitrary conditions upon others, or other methods to effect such purposes. The issue is not whether the defendants have committed a crime, but whether the restraints should be discontinued, because they are unreasonable. The Sherman act authorizes the government to proceed criminally or by civil suit, but the criminal proceedings are few. It is inconceivable, in the face of criminal provisions of the act that public policy will tolerate secret agreements, or undisclosed concerted action by the parties interested in making profits out of such arrangements.

"Unfortunately we have no definite machinery for formal presentation of contemplated agreements or plans for cooperative efforts. However, the department of justice has followed the practice of receiving copies of proposed plans or agreements, and sometimes discusses them informally. You will not get a ruling of legality or illegality in advance, unless the department feels the scheme is patently unlawful. If the objectives are legitimate, if the plan is reasonable, and if you have told the department all about it, then when the department receives complaints from persons claiming to have been injured, or has other reasons to believe the arrangement goes too far. Experience goes to show that you may anticipate a discussion as to the legality of your plan and as to possible modification. If there is an irreconcilable difference of opinion, the point at issue is whether the restraints are unreasonable. Under such circumstances, the government has invariably proceeded by civil suit in equity.

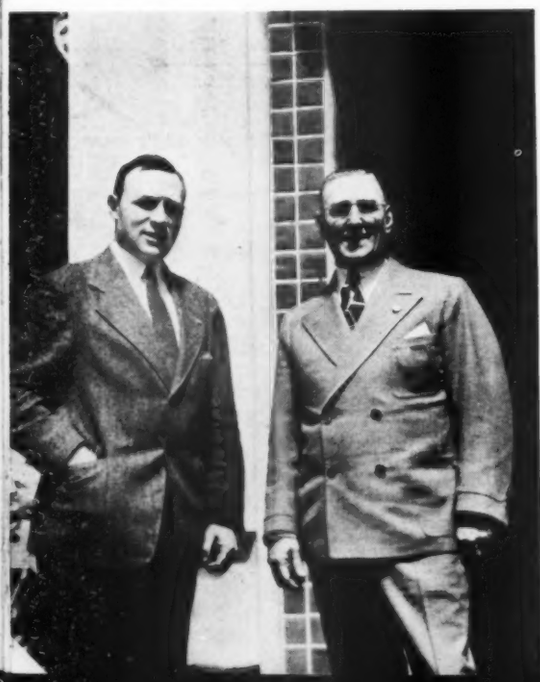
"Trade associations have opportunity to furnish a meeting ground for formulation of legitimate trade agreements, to serve as the agency to deal with the government and in many cases to provide the machinery for putting such agreements into operation."

E. I. HANLON

He warned associations to "avoid any suspicion of bad faith and any suspicion of concealed purpose to circumvent the policy of the Sherman act by giving the government full information in advance; adhere scrupulously and honestly to the methods and purposes announced; then if the government disagrees with you, the record shows it will deal with you on the basis of an honest difference of opinion in the application of the law and not as conspirators to be punished. If you concede that the goal towards which we should strive is not more governmental regulations but the preservation of a competitive system inspired by individual and company initiative and implemented by lawful cooperation then the best vehicle is the trade association which conceives its function not only to improve the welfare of its members, but to fulfill its responsibilities to the public."

The thought outlined in Mr. Horween's paper appeared somewhat in contrast with the actual sales practices outlined by H. Merle Smith, merchandising consultant, who deplored the lack of sales planning so often witnessed in the mad drive to push business under existing conditions. And in a similarly aggressive manner Charles T. Evans told marketers to "hold on."

ENJOYING THE VIEW—Ralph Horween and A. V. Bourque



Octane Values Lead Springs Meeting

Dealing with the subject of oil marketing along the broader lines and indicating what influence proposed legislation might have upon business practices, Fayette B. Dow, Washington counsel for the association, said:

"We have already noticed that many business concerns have decided the Patman act requires them to make drastic alterations in their quantity discount schedule. The crucial question is, can and will the act be enforced. Consider the number of separate sales transactions occurring each day, each offers the opportunity for an unlawful price discrimination. The problem of policing appears almost hopeless. Furthermore the litigation of a case under the Patman act will necessitate the preparation and submission of lengthy analysis of the respondences, cost of doing business and lengthy historical analysis of the economic condition of the competitors. None of this is impossible but it is time consuming in the extreme.

"The rank and file of business men will probably never feel the teeth of the Patman act. Every one who desires to avoid the risk must refrain from granting any price discrimination unless justified by differences in cost or made in good faith to meet competition."

H. D. ASHTON

The "governmental" atmosphere that surrounded this branch of the meeting was probably most forcefully retained through the presence of Carl E. Bailey, governor of Arkansas, who had previously welcomed the delegates. Col. T. H. Barton, president of Lion Oil Refining Co., introduced the governor.

The technical sessions attracted more attention than those of any previous association convention and under the chairmanship of Emby Kaye, vice president of Skelly Oil Co., a most interesting series of papers and discussions covered the subjects of crude oil, dehydration and reforming. Two papers on dehydration and desalting were presented, one by G. B. Hanson of Petroleum Rectifying Co. in which he discussed the electrical process and one by E. R. Jones of Skelly Oil Co. in which the use of chemicals was discussed. Both papers appear in this week's issue of The Oil and Gas Journal.

The paper on reforming versus lead prepared by Wright W. Gary covered such a broad field of economic study it was impossible for those present to discuss all phases of the subject. It was essentially a study of the effects which a tentative method for determining the octane value of gasoline would have upon the quality of the gasoline and the inference was made that through this suggested change the octane value of house brand gasoline would be raised equivalent to approximately 73 octane under the present method.

In his study of the subject, Mr. Gary assumed that the new basis for evaluating "Q" gasoline would call for a test method midway between the CFR research and CFR motor scale, and he assumed arbitrarily the new specification would call for what we would not term a 73-octane motor fuel. From this point he proceeded to estimate cost of reforming and weighed this against cost of adding lead to the motor fuel. His conclusions indicate that for Mid-Continent refinery operations generally, a combination of reforming and the addition of lead provides the most economic basis for plant operations to meet a 73-octane requirement.

In the analysis, Mr. Gary assumed that evaporation and sweetening losses would be held negligible. He also assumed that the octane and leading characteristics of the gasoline would be identical. He took two-tenths cent per gallon as the cost of reforming, based upon the oil charged to the unit, but this did not include fixed charges and royalty costs. In all his calculations he used virgin 100° to 400° Mid-Continent naphtha as his base stock. He assumed this would require no other treatment than sweetening before leading. He assumed arbitrarily a sweetening cost of .05 cent a gallon. In further consideration of the economics of his problem, he assumed no limitation of the allowable lead concentration and he also assumed the lead would cost .26 cent per cc. No differential evaluation was assigned to varying vapor pressures or boiler range characteristics, and he assumed 100 per cent butane would be recovered.

L. D. Mann, general superintendent for Empire Oil & Refining Co., in discussing Mr. Gary's paper, pointed out that the method prescribed by Mr. Gary was ingenious and had definite practical value to Mid-Continent refiners who appear to be definitely faced with choosing between adding reforming capacity, increasing lead content of their motor fuel or combining the two. He indicated he did not expect any immediate call to produce a full 73-octane motor fuel as the house brand grade but he did expect to find changes to be made in the method of testing motor fuels that would require Mid-Continent manufacturers to produce gasoline of 71½ to 72 octane value. "But," he said, "regardless of whether it was 71½, 72 or 73, any change will incur additional expenses."

He said, "In those areas where large plants can be justified, there is the possibility of finding a market for the gas produced by reforming, and if polymerization becomes generally adopted, it might be possible to avoid any form of reforming by more intensively cracking the oil and then segregating the light fractions, including the great bulk of the straightrun gasoline, for dehydrogenating and polymerizing." This factor, of course, introduces the economic study of whether it will be cheaper to purchase natural gasoline to supply volatility or eliminate all purchases of natural gasoline and try to effect a balance by recovering and saving a portion of the light fractions made by cracking or reforming.

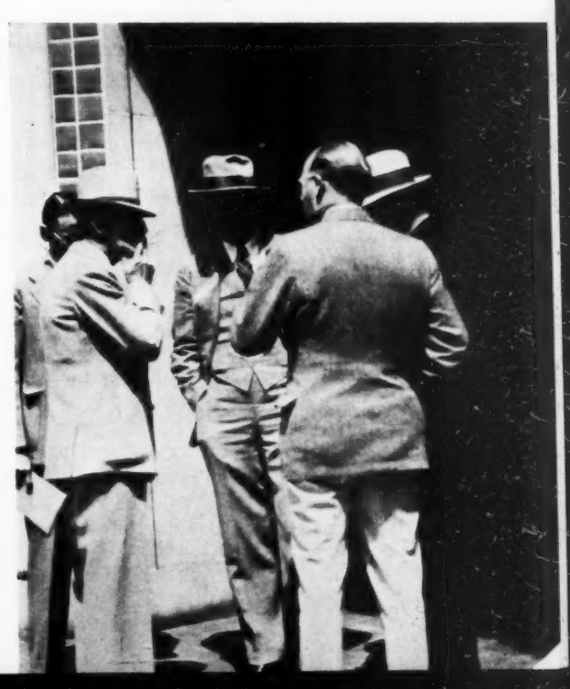
Leaving the subject of reforming, the technical sessions were resumed to hear papers on the subject of gasoline, presided over by R. B. Pierce of the Arkansas Fuel Oil Co. One paper, that by Dr. P. S. Nisson and W. R. Ross of Pure Oil Co., is included in this week's issue of The Oil and Gas Journal.

MOMENTARY RELAXATION—H. W. Camp and R. H. High

"Doctor Treating" was discussed by Dr. C. W. Rippie of the Solvay Sales Corp., and the specific operation of the "Lead Sulfide Process" was discussed by D. B. Nutt of the Standard Oil Co. of California and J. A. Altshuler of the Stratford Engineering Corp. Following this, a paper was presented by Doctor Rippie on the "Copper Chloride Process and Review of Other Methods."

Submitting the suggestion of the association's diesel fuel subcommittee that diesel fuel specifications be simplified and standardized more closely, L. D. Mann, chairman, was given a favorable hearing before the manufacturing committee headed by Emby Kaye, and by the assembly generally. A. E. Landsittel of Globe Oil Refining Co. submitted his report on "Octane Brackets" but no definite action was taken in regard to changing the basis for evaluating motor fuels. W. E. Moody of Deep Rock Oil Corp. submitted his subcommittee's report on lubricants, followed by a brief report by R. W. McDowell of Mid-Continent Petroleum Corp. on "Posting Tankcar Prices."

Talking It Over



SPARKS FROM THE NEWS

A motorist in Paris buying gasoline at 45.9 cents per American gallon is paying 19.9 cents tax and 7.1 cents import duty. Arriving in Berlin he will pay 59.6 cents for the same grade gasoline, the price including 31 cents duty and 5 cents tax.

Not to be outdone by this country operators in Venezuela and half a dozen other foreign countries appear certain to establish crude production records in 1937.

Action of Texas' governor in signing bill for extension of Interstate Oil Compact emphasizes fact that time is drawing to a close for final approval of extension by congress and several other oil producing states.

If leasing was an accurate gauge of an oil area, southern Illinois would rank among the greatest. Over 5,000,000 acres are under lease with deep sand possibilities, on which the leasing is largely based, yet to be determined.

An observer points out that a wildcat showing is worth something to the oil industry even in cases where it finally proves to be a duster. It attracts thousands of gasoline-consuming cars whose owners are anxious to be in on the next big play.

As a matter of record the Department of Labor's latest report shows a wholesale price index for all commodities in January of 95.9. This compares with 58.3 for petroleum products, which have a long way to go before they reach the 1926 index which was the administration's goal at start of New Deal.

Welding and running more than a mile of 8⅝-inch casing in 27 hours was Oklahoma's contribution last week to new Mid-Continent production practice.

Kansas is running neck-and-neck with Oklahoma in new field activity. Wildcat operations in the Sunflower state extend to its four boundaries.

Consumer opposition to the Connally act is erupting at Washington.

Bureau of Mines, whose monthly demand recommendations, have been criticized as too low, had its day in court last week. In making its May recommendation the bureau pointed out that, if its schedules had been followed out in March and early April, the substantial increases in storage now plaguing the industry would not have materialized.

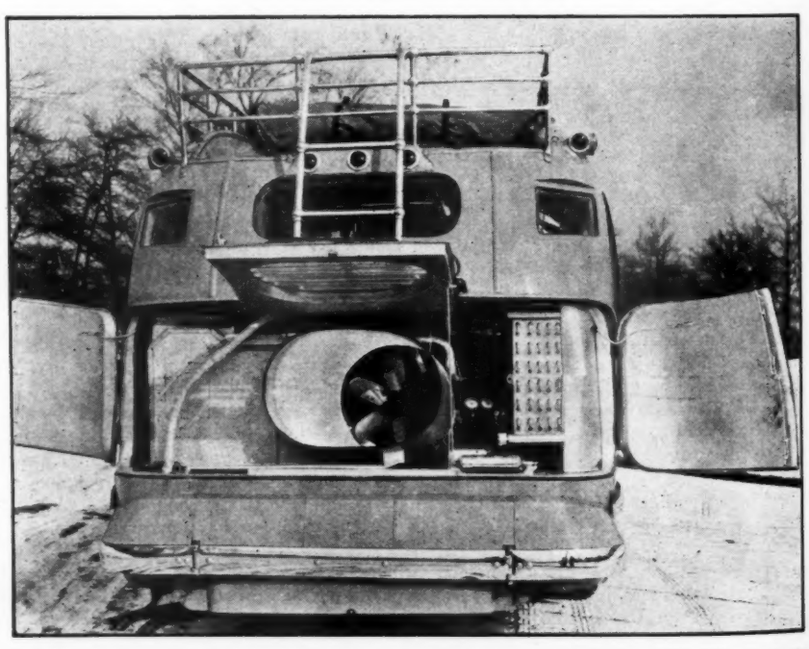
Former Governor Landon is headed for an active summer. With associates he is preparing to drill six wells in new Butler County, Kansas, pool which he discovered.

A national crude production record of 3,500,000 barrels daily which early in the year was predicted for late summer, arrived last week. It may develop that the industry would have been better off if operators had been content to carry out the prediction.

Record attendance at W.P.R.A.'s Silver Jubilee at Hot Springs attests to general hardiness of western refiners who are still going strong after 25 years of ups and downs.

A major marketing company may establish a precedent which will increase gasoline consumption by adding trailers to the transportation facilities of many salesmen. A "lubrication clinic-on-wheels" will display and demonstrate company products to dealers and jobbers and house sound motion pictures used in connection with sales work.

ICEOLATED COMFORT



Relief in hot weather motoring foreshadowed in air-conditioned research coach

Big Leasing Campaign Under Way in Illinois Coal Basin

By JAMES McINTYRE

MATTOON, Ill., Apr. 26.—Portions of 39 counties in central and southern Illinois have been included in the gigantic leasing campaign in the Illinois Coal Basin begun a year ago by the Carter Oil Co. The original rush for leases, engaged in principally by large companies operating in the Mid-Continent field, includes an area 160 miles north and south and 80 miles east and west with the principal meridian as the center. But this has led to a rush for leases that has taken in parts of every county from the eastern to the western border of the southern half of the state as the accompanying map will show.

The most solidly leased portion of the big area starts at Duquoin in Perry County on the south, and ends around Decatur in Macon on the north.

It is estimated that 5,000,000 acres of land has been leased for oil and gas purposes and the campaign is still vigorously alive. Many independent buyers have followed the major companies into the state and are picking up all the popular-priced acreage the majors have not sewed up, but the majors are still busy with experienced leasers in the field and with 15 seismograph crews "shooting" in many parts of the basin.

Carter Oil Co., Gulf Oil Corp., Texas Co. and Superior Oil Co. of California have established headquarters in Mattoon and other companies are expected to center their operations in this city. At present Magnolia Petroleum Co. is quartered at Decatur, on the northern rim of the lease play; Ohio Oil Co. remains at its long-time headquarters in Marshall, Clark County, in the old southeastern Illinois field; Pure Oil Co. at Olney in Richland County; Stanolind Oil & Gas Co. at Champaign; Kewanee Oil & Gas Co. at Robinson, in Crawford County. Texas Co. and Shell Petroleum Corp. have seismograph crews working out of Centralia. Other companies that have leasing men in the field include Mid-Continent Petroleum Corp., Tide Water Associated Oil Co. (which has long been established in the old southeastern Illinois field), Amerada Petroleum Corp. and Adams Louisiana Oil Co., which opened the Patoka field in Marion County and is now leading all companies in the number of its operations.

Most of the leasing has been done on a basis of 10 cents an acre for 10-year leases. This year prices rose as competition became keen, and as high as $1 an acre has been paid for wildcat acreage. In the past week Benedum & Trees paid $30,000 for 1,200 acres in Wayne County, but the acreage is in the neighborhood of the Pure Oil Co.'s discovery well in that county.

A rough estimate of the holdings of the larger companies in the basin credits Carter Oil Co. with 650,000 acres; Magnolia Petroleum Co., 450,000 acres; Pure Oil Co., 400,000 acres; Texas Co., 400,000 acres; Gulf Oil Corp., 200,000 acres; Ohio Oil Co., 300,000 acres; Shell Petroleum Corp., 200,000 acres; Nollen Oil Co., 60,000 acres; Mid-Continent Petroleum Corp., 15,000 acres; Ada Belle Oil Co., 35,000 acres; Superior Oil Co. of California, 30,000 acres; Adams Louisiana Oil Co., 10,000 acres; Sun Oil Co., 50,000 acres. Most of this acreage is within that 80-mile strip already mentioned. Amerada Petroleum Corp. has recently entered the field. Other large companies that operate in the Mid-Continent have had men here going over the ground.

Counties in which there has been recent leasing activity

Mid-Continent Map Co. of Tulsa have a staff of men in the field working out of Mattoon and already has completed mapping Marion County.

The three discoveries already made, in Marion, Wayne and Clay counties were all drilled on seismograph information, giving the geophysicists a perfect batting average thus far.

Only one completion was reported in the basin in the past week, and that was in the Bartelso field, where Santa Fe Oil & Gas Co. No. 2 Kleinkorte, NW NE section 8-1n-3w, was finished as a 35-bbl. pumper at 995 feet, plugged back from 1,047 feet.

In Marion County, where Adams Louisiana Oil Co. has two completions in the Patoka pool, the same company's No. 3 Merryman, SW SW section 21-4n-1e, had a hole full of oil from St. Genevieve lime, but was drilling at 1,416½ feet. Same company's No. 4 Merryman, SE SW section 21-4n-1e, set 8-inch casing at 91 feet and made a location for No. 5 Merryman, 630 feet from south and 1,100 feet from west lines of SW quarter of section 21. The Adams Louisiana Oil Co. No. 1 Boye, C NW NW section 32-4n-1e, cored a showing of water at 1,490-1,503 feet. Casing was set at 1,584 feet and the hole drilled to 1,616 feet and plugged back to 1,608 feet.

Wiser Oil Co. was drilling at 250 feet in No. 1 Seth Martin, NW SE NW section 27-4n-1e, Marion County, after setting 16-inch pipe at 65 feet.

Illinois National Oil & Gas Co. was rigging up machine on a Patoka town lot in Township 4n-1e.

Hempen & Burgess No. 1 Adams, NE NW section 33-4n-1e, was underreaming 6-inch casing at 1,403 feet. Same company's No. 1 Allison, NW SW section 33-4n-1e, was drilled to 290 feet and shut down.

Sunflower Oil & Gas Co. No. 1 Murfin, NW NE section 33-4n-1e, was cleaning out at 950 feet.

In Clinton County, Patoka Petroleum Co. was drilling at 1,240 feet in No. 1 Ducomb, SE SE NW section 13-3n-1w.

In Effingham County, W. H. Hazlett No. 1 Haarman, NE cor. section 5-7n-6e, had a small showing of oil at 1,160 feet and a water showing between 1,215 and 1,315 feet and was at a total depth of 1,483 feet. The crew will underream the 8-inch pipe to the bottom.

In Christian County, Bear Creek Oil Co. No. 3 C. Glass, in section 29-12n-2w, set 12½-inch pipe at 36 feet, and was drilling at 70 feet.

In Clark County, National Consumers Oil Co. No. 1 Minnie Jackson, NW NE NW section 21-11n-12w, was shut down at 1,280 feet.

In Clay County, Pure Oil Co. No. 1 Travis, NE SW NE section 33-3n-8e, set 16-inch pipe at 62 feet and was drilling at 750 feet.

In Clinton County, Santa Fe Oil Co. was moving in equipment for No. 1 Robbins, NE cor. SW SW SE section 5-1n-3w.

In Wayne County, where Pure Oil Co. has a 115-bbl. well completed some time ago, an offset, Pure

Oil Co. No. 1 Billington, SE NE NE section 27-1n-7e, was drilling at 2,400 feet and should be at pay depth in a few days. Same company has a combination rotary and cable outfit rigged up to drill No. 1 Brach, NW NW SW section 26-1n-7e.

In Fayette County, C. W. Witwer and others No. 1 Ford, SW NE SW section 31-5n-3e, was shut down at 345 feet.

In St. Clair County, A. J. Colgan drilled to 1,250 feet and shut down in No. 1 Reichert, NW SW NW section 18-1s-7w.

In Lawrence County, Warrerr Hastings was drilling at 1,590 feet in No. 1 Lagow, NW cor. NE SE SE section 30-5n-10w. Same owner recently completed a gas well at 622 feet, making 824,000 feet a day, in No. 1-A Lagow.

In Bond County, Hempin and others No. 1 Seiver, C SW SW NW SE section 15-5n-3w, was shut down with a hole full of water at 1,087 feet.

In Clinton County, Carl Willi and others No. 1 Holly, 200 feet west of C section 12-1n-2w, was at a total depth of 1,361 feet, drilling in a water sand.

The old fields in Illinois have produced about 430,000,000 bbls. of oil. Snowden & McSweeney developed a remarkable lease in the Bridgeport field in Lawrence County in the early years of the century. It was the O'Donnell farm, in section 17-3n-12w. Forty-five wells were completed on this property, which produced a little over 50,000,000 bbls. of oil, or an average of more than 31,000 bbls. an acre. It is doubtful if any 160-acre tract in Oklahoma or Kansas can equal this record. The main producing sand was the Buchanan, basal Pennsylvanian, but some production was obtained from the Kirkwood sand. The top of the big pay lay at an average depth of 1,250 feet. It is not to be wondered at that operators in the Illinois Basin keep in mind the richness of the pay in the old fields of Crawford, Clark and Lawrence counties, with sands of similar age now known to be available in the more central part of the state.

J. Marvin Weller, of the Illinois Geological Survey, in a report on the possibilities of the Illinois Basin says that over half of the oil produced in Illinois has come from sands near the base of the Pennsylvanian system, such as the Bridgeport, Buchanan and Robinson. Over 50 per cent of the remaining half of the oil already produced has come from sands in the Chester series, of which the Cypress and Bethel sandstones are by far the most important. These are the Kirkwood, Carlisle, Tracy and Benoist sands. These Pennsylvanian and Chester sands account for more than 90 per cent of the state's production to date. The remaining 10 or more per cent of the production has come from porous limestones in lower Mississippian formations. The McCloskey horizon in the upper part of the St. Genevieve limestone is by far the most important and has given the wells the largest initial production ever found in the state. All of these formations are present in the basin.

The 15 seismograph crews now operating in Illinois have developed and will continue to develop much information not possible to obtain by ordinary geologic methods because so much of the state's area is covered with glacial drift.

While the new production thus far found in the Illinois Basin has come from one or anotner of the formations mentioned, the possibilities of finding oil in the deep-seated St. Peter sand, which is approximately correlated with the Wilcox sand of Kansas and Oklahoma have intrigued oil men for years. The St. Peter in Illinois may be as deep, or nearly as deep, as the Wilcox sand in Oklahoma City, Oklahoma. It will be found below 6,000 feet in the basin. It never has produced oil or gas in Illinois or adjacent states. In the northern part of the state the formation contains fresh water. At two places in southeastern Illinois it has been found to contain salt water, according to J. Marvin Weller and Alfred H. Bell of the State Geological Survey. Both these tests were in areas of oil production from higher horizons.

The interest in the possibilities of the basin began when Carter Oil Co. of Tulsa sent geologists into the area in 1934 to make a reconnaissance. This was followed by a leasing campaign on a huge scale which drew the attention of other majors to the state and they were not long in joining in the work of signing up all the acreage available. The Pure Oil Co. pioneered in the drilling with tests in Wayne and Clay counties, closely followed by Adams Louisiana company in Marion County. Just when Carter, Shell, Gulf, Magnolia, Texas and other companies will begin their test work is a matter of speculation, but it is believed that one or more of them will start operations somewhere before the end of this year. While the discovery of the shallow pays has aroused much interest, tests of the deeper formations down to, and including, the St. Peter sand will interest the industry more, as many oil men, including geologists, are anxious to have proven whether or not that great body of sand is productive of oil.

Heads Oil Producers Agency

JACK J. DOYLE

LOS ANGELES, Calif.—Jack J. Doyle, Los Angeles, was elected president of the Oil Producers Agency of California at the annual meeting of the board of directors April 21. The new president is also president of Doyle Petroleum Corp., Elyod Oil Co., and general manager of Doyle-Clune Oil Co.

The board also elected three new vice presidents and a secretary-treasurer. C. C. Spicer, president of Republic Petroleum Co.; Laurence C. Kelly, vice president of Thomas Kelly & Sons, Inc., and William J. Schultz, president, Crescent Petroleum Co., are new vice presidents, and Frank Travers, of South Basin Oil Co., is secretary-treasurer.

Four new directors were elected: Charles A. La Fever, Huntington-Signal Oil Co.; J. H. Royer, superintendent, Birch-Royer Oil Co.; Robert Lytle, manager field operations, Petroleum Securities Corp., and L. L. Aubert, general manager, Bankline Oil Co.

Retiring president, R. A. Broomfield, executive vice president of Barnsdall Oil Co., was given a resolution of appreciation for his services during the past 18 months, the presentation being made by the temporary chairman, William H. Geis.

May Crude Recommendation 89,900 Barrels Higher

The daily average production of crude oil for May, 1937, estimated by the Bureau of Mines to meet the demand, is 3,332,900 bbls., or 89,900 bbls. higher than the estimate for April, 1937, and 309,100 bbls. higher than the actual of May, 1936.

Domestic Demand—The domestic demand for motor fuel in May has been estimated as 47,650,000 bbls. Although this is 13 per cent higher than the "actual" demand in May, 1936, it is only 9 per cent higher than a normal figure for that month.

Exports—Exports of motor fuel for May have been estimated at 2,800,000 bbls., or 300,000 bbls. above that for April.

Stocks—Stocks of finished and unfinished gasoline amounted to 78,413,000 bbls. on February 28, an increase of nearly 7,000,000 bbls. over the stocks on January 31. According to the American Petroleum Institute, stocks were further increased during March by about 4,400,000 bbls., making them approximately 83,000,000 bbls. as of March 31. This is about 8,000,000 bbls. above the corresponding total for 1936, but it is expected that the increased consumption will reduce these stocks at a faster rate than last year. Accordingly, the estimated reduction for May is 2,700,000 bbls., compared with an actual decrease of 1,904,000 in May, 1936.

Gasoline Production — Benzol and direct sales and losses of natural gasoline have been estimated as 900,000 bbls., making the estimated production of gasoline 46,850,000 bbls. This is distributed among the districts as follows (thousands of barrels): East Coast, 7,010; Appalachian, 1,710; Indiana-Illinois, 8,120; Oklahoma, 3,170; Kansas, 2,860; Inland Texas, 3,840; Gulf Texas, 10,130; Gulf Louisiana, 1,710; Inland Louisiana-Arkansas, 980; Rocky Mountain, 1,130; California, 6,190.

Runs to Stills—Natural-gasoline consumption at refineries is estimated as 5.0 per cent of the total gasoline required, or 2,340,000 bbls. The yield of straightrun and cracked gasoline is estimated as 45.1 per cent, an increase of 0.8 per cent over the April estimate. The application of this yield to the estimated straightrun and cracked production of 44,510,000 bbls. gives 98,620,000 bbls. as the crude required at refineries.

Imports—Runs of foreign crude have been estimated as 2,900,000 bbls., an increase of 100,000 bbls. over April.

Exports, Fuel and Losses — Exports of crude have been estimated as 4,500,000 bbls. The estimate for fuel and losses remains the same as for April, 3,100,000 bbls.

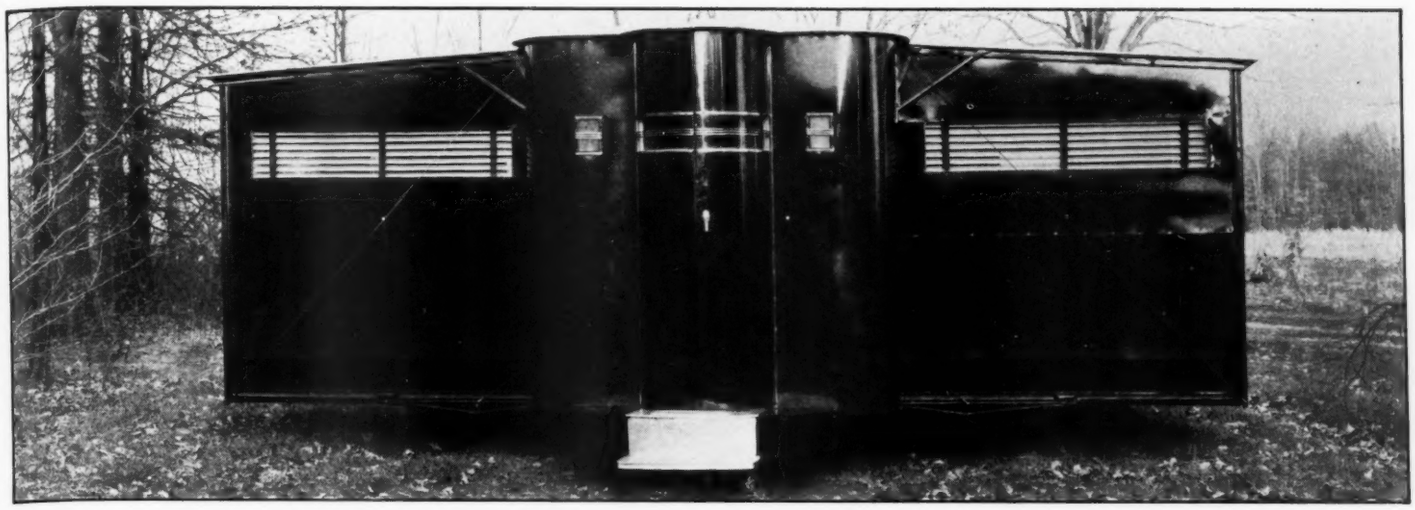
Required Production — The application of the usual methods to the total required production of crude oil gives the following breakdown by states:

TABLE 1—RECOMMENDATORY LEVELS OF REQUIRED CRUDE OIL PRODUCTION BY STATES*

(Daily averages in barrels)

State—	Forecast May, 1937	Forecast Apr., 1937	Actual prod., Feb., 1937
Texas	1,340,800	1,297,900	1,349,400
Oklahoma	622,700	609,600	621,700
California	583,300	579,900	589,800
Louisiana	249,400	244,800	238,200
Kansas	187,100	183,000	188,700
New Mexico	99,800	91,400	98,800
Pennsylvania	52,600	49,800	49,400
Wyoming	49,000	44,000	49,700
Michigan	34,900	30,600	29,900
Arkansas	28,500	27,400	27,200
Kentucky	14,800	15,600	14,600
Montana	15,200	14,600	16,300
New York	14,500	14,000	14,600
Illinois	12,500	12,800	12,200
West Virginia	10,500	10,500	10,400
Ohio	10,300	10,200	10,100
Colorado	4,800	4,800	4,300
Indiana	2,200	2,100	2,300
Total	3,332,900	3,243,000	3,327,600

*The recommendations in this table have been calculated as the requirements for the months stated and are not intended to be calculations of daily average demand for the current year or for any period other than the months stated.



Two large rooms are unfolded on opposite sides of the main body of the "House" to form a complete home

Expansible Houses on Wheels Await Gasoline Consumers

By W. T. ZIEGENHAIN

One hundred million living in the United States would like to see America. A few hundred thousand have looked at scattered portions from city hotel windows and passed through sections traveling on transcontinental trains but very few have satisfied their broader desires. But the question may be asked, "What has this to do with the oil business?"

The answer in general is that a super-modern-type of trailer may be developed for large-scale production which will be purchased by a reasonably large number of people for satisfying these desires and these trailers promise to influence greater consumption of gasoline, motor oil, liquefied gases, stove distillates and greases to an appreciable degree.

To date, most people have not believed they possessed either the time or the money to see America, but automobile trailer manufacturers think they see a decided change coming in the habits, economic welfare and mental attitude of millions to enable them to see and act differently. Some students of economics contend a sufficiently large number will be financially able to stop active work at 55 or 60 to permit them to see America by traveling in trailers. Many, they say, will live in these new "homes on wheels" for two, three or maybe ten years, spending, say, two months in southern California every year, one in Arizona, three in Florida, a month in the Maine woods, a month on a Minnesota lake-front, a month in Colorado, etc.

The oil industry is told 35,000 trailers were purchased in 1936, or 40 per cent more than 1935 and that during 1937 at least 70,000 will be built.

While these figures may appear unimpressive in view of the 4,000,000 automobiles to be built in 1937 and some 18,000,000 passenger cars on the roads without trailers attached, the movement to trailers is said to have just started. Trailer enthusiasts are quick to point out that people generally do not realize what changes are taking place in the construction of these trailers.

They say the trailer of yesterday was a home made box set on a salvaged automobile running-gear, wired to a second-hand automobile and it provided the cheapest means a man could find to transport his family over the road in search for a job. Today, the trailer is a reasonably safe, extremely compact modern cabin on wheels, while tomorrow's trailers will take the form of a mobile four-room home, ultra-modern in its equipment and appointments and more economical to own than a permanent home. These "homes" will contain a sanitary toilet, hot and cold water, shower bath, built-in radio, oil refrigeration, oil cook stove, an oil heater and will probably be insulated, soundproof and air-conditioned. They will have standardized connections for electricity, sewage disposal, water and telephone and they will be attached to permanent systems each time the "home" stops at one of the ultra-modern trailer ports likely to be established in every appealing place in America.

The "House" on the road with the two annexes folded against the sides

These will not be ordinary tourist camps but instead might be called "gypsy parks" where one would expect to find permanent streets, well defined lots, flowers and maybe a permanent garage for the car, where everything would be found to make a home but the house itself. There will be a concrete slab rising just a few inches off the ground, upon which the "home" on wheels will come to rest for a day, a week, a month or a year. The owner of the "home" will pay the lot owner a fee which would be somewhere near 30 cents a day. If a permanent nursery, policing service and other facilities are made available as planned, the cost might be higher.

Real estate dealers and trailer sales companies plan to provide these elaborate facilities for the wandering home-owner, but before their dreams can be fully realized, they realize trailer parts must be standardized to reduce cost. One important item before automotive engineers now is the matter of designing and adopting a standard coupling or hitch-brackets to fasten the trailer to the car. This is in progress and is considered essential to insure safety as well as provide a means of making car and trailer connections interchangeable. Speeds up to 65 miles per hour may be safely maintained if the trailers are adequately coupled to the car and perfect wheel-alignment maintained. This seems very likely to be solved shortly.

To give some idea of the completeness of facilities offered in trailers of the more elaborate type, the recently completed "Stout House," designed and built by William B. Stout, of Detroit, serves as a fine example. Mr. Stout is best known as the designer of the Ford trimotor, all-metal plane, the rear engine-driven Scarab car and Union

Pacific's M10001 streamlined ultra-modern speed train. He and Mrs. Stout are now on their way to California in one of his "Stout houses," visiting Tulsa en route.

Mr. Stout's idea is to build a house on wheels that will provide all the comforts of a modern small home. He advocates the expansible-type of trailer and the latest product of his experimental laboratory at Dearborn, Mich., is shown in the accompanying illustrations. This trailer is being used by Mr. and Mrs. Stout on their trip to the Pacific Coast.

Mr. Stout likes to point out that, "It is not a trailer made into a house, but a house made into a trailer." It utilizes four different products of the oil refining industry. It weighs close to 4,200 pounds when fully equipped. It is about as long as a Chevrolet car. Its frame is made from welded steel tubing such as found in airplanes and the walls and roof are made from sheets of tough aluminum alloy.

Interior of the "House" after being unfolded. A crank is used to fold and unfold the two annex rooms. The raising or lowering is done by use of a cable and the operation takes one man about five minutes

On the road the trailer is folded to make one room but after the owner comes to a halt the room may be expanded into an enclosure measuring 13 by 18½ feet. The walls and roof of two side-annexes are folded back against the sides of the stationary room when the trailer is in motion. Cables extend from a windlass conveniently located in the permanent room to the outer corners of the folding rooms to support the annexes when the trailer comes to rest. One person may raise or lower the walls and roof of the two added rooms by rotating the windlass which takes less than five minutes. If the owner wishes to locate in one place for more than one night, he will probably want to support the corners of the additional rooms by means of adjustable supports built into the frame. Complete unfolding and adjustment of the home can be made by one man within 20 minutes.

Other features of the "house" include a built-in radio, hot and cold water, sanitary septic tank, gas refrigerator, gas stove, distillate heater, ample closet space, shower bath, insulated and soundproof walls, and electric brakes controlled from the driver's seat.

No conclusive data is available to predict the increased gasoline consumption of automobiles drawing trailers of this type but a short trip taken out of Detroit using the trailer shown, attached to a standard Ford coupe, indicates the car engine develops about one less mile per gallon than when the car is not pulling the trailer. The average gasoline consumption of the car when pulling the trailer was indicated as about 15.4 miles per gallon against 16 to 17 miles without the added load.

However, the great bulk of the increased gasoline consumption expected is not to be the result of the car pulling the trailer but because the detached car would probably use from two to five times the gasoline consumed out of a permanent location.

Also, since rolling friction is the principal factor up to 35 miles per hour, and beyond that the chief factor is wind friction, it becomes apparent the influence of trailers upon gasoline consumption is a function of speed as well as weight. At present, car manufacturers do not seem concerned about adding more reserve power to their engines.

Nevertheless the increase in gasoline consumption from use of trailers will not be due to pulling additional weight so much as that people who own them will drive their cars more miles.

Obviously, also, as the engine develops additional power more lubricating oil will be consumed and additional grease in the wheels of the trailer. A third oil product may find an important use in modern trailers depending upon how extensively trailers are used. If large numbers of better types of trailers are used, consumption of propane and other liquefied gases will be appreciably influenced. In the Stout House liquefied gas not only provides fuel for the cook stove but also operates the adsorption-type refrigerator. A family of four living in one of these houses will use approximately one cylinder of gas per month and the cost of the gas will compare favorably with the cost of natural and artificial gas available in city homes.

The fourth petroleum product to be used in the Stout House is distillate. A small oil heater holds the trailer temperature to any desired level, the sides of the house being insulated and the seams of the walls, roof and floor sealed with sponge rubber.

Humble Employes Organizing Own Bargaining Federation

The Humble Oil & Refining Co. has discontinued its joint conference or company union plan long in effect among its employes due to the Supreme Court's action in upholding validity of the Wagner act and criticism directed at this plan as used in some other companies.

The company announced in a formal statement that hereafter it would: First, bargain collectively with any group representing a majority of the employes in an appropriate unit and also consider grievances presented by individual employes or groups of employes; and, second, pay employes for the time spent during working hours in conference with the management.

Under the joint conference plan, employes of the company elected representatives to discuss all employer-employe problems with the management.

"This plan, as used in the relations between the Humble company and its employes during almost the entire life of the company has been an effective means of settling controversial questions," the announcement said. "In order to avoid any hazard to the happy relations that exist between this company and its employes by continuing a plan for collective bargaining that may be criticized, we prefer to forego further use of the joint conference plan.

"The Wagner act does not compel any employe to join a union or any other labor organization, but leaves the employe entirely free to join or not to join, nor does it designate any particular form of organization for use as a bargaining agency. There is nothing in the act to cause or require the company to change its long-established policy of not discriminating against any employe because of membership in any church, society, fraternity or union. The employes may bargain with the company in such manner as they themselves shall determine upon, through such representatives as they may choose, free from domination, interference, coercion or restraint on the part of the company."

Sixty Humble employes at the Baytown, Texas, refinery formed an employes federation following dissolution of the former representation plan, and began a drive this week for members to oppose the C.I.O. and Federation of Labor efforts to organize the workers. A total of 3,300 persons is employed at the refinery. If a majority ratifies the new federation it will become the permanent organization for collective bargaining.

After about three weeks of intensive activity, the Committee for Industrial Organization (C.I.O.) workers have made little headway in the East Texas and North Louisiana fields and refineries, according to reports from Shreveport, La. Organization meetings being held almost nightly at key points in the district attract small audiences, it is reported. The organizers' greatest trouble has been to convince the workmen they need collective bargaining, or that they have any grievance.

Open Extensive Area in Bemis Territory to Development

By DAL DALRYMPLE

Discoveries and pool extensions have been so frequent in Kansas in the last two years that the Bemis pool in northern Ellis County has received little more than routine attention in field news reports—and this despite the fact 38 oil wells have been completed, others are near completion, only one close-in dry hole has been drilled and the productive limits are yet to be determined.

Bemis, however, recently was extended on three sides in rapid order. The Texas Co. pushed production two locations north. Then Deep Rock Oil Corp. and Texas Co. extended it one location south with two producers. Soon thereafter Margay Oil Co., pioneer operator in the field, not to be outdone, extended the limits two locations east.

These extensions, together with the opening of a new pool about 3 miles east and one-half mile north of Bemis production, and completion of a comparatively large producer in the old Shutts pool about 2½ miles southwest of Bemis, focused attention on the district.

These recent strikes make a large area look promising for possible production. It is possible the Shutts and Bemis areas and the newly opened Cress pool to the east may be on the same trend and eventually may be united into one large field. Certainly, large sectors between the three pools are due for exploration.

The Bemis pool was opened in October, 1935, by Louis Roark and others No. 1 Bemis, SE cor. section 16-11-17w. It had Topeka lime pay at 2,830 feet, with initial production of 514 bbls. of oil naturally. This well was deepened and recompleted as a Siliceous lime producer at 3,032-35 feet; total depth, 3,040 feet; increasing the yield to 540 bbls. in 23 hours, after east and south offsets had been completed as Siliceous producers. Soon after completion, Louis Roark sold his interest to Margay Oil Co., the pioneer in continuing development.

The Siliceous discovery was Margay Oil Co. and others No. 1 Bemis B, SW cor. section 15-11-17w, which had pay at 3,380-82 feet, total depth, with initial yield of 1,353 bbls. of oil. The second Siliceous lime well and south offset to the Topeka lime discovery well was drilled by Winkler & Koch and Uscan Oil Co.

These three wells at that time had the distinction of being classified as three pools, the Bemis Topeka pool, the Bemis Siliceous pool, and the Bemis South pool. Each had its separate potential and was prorated accordingly. That condition did not long endure, all being united into the one Bemis pool as development continued.

Subsequent development of the pool is shown on the accompanying map. The only close-in dry hole, National Refining Co. No. 1 Bemis, SE SE SW section 16-11-17w, missed the Siliceous lime. However, its south offset, Winkler & Koch No. 1 Hadley, was completed as a Siliceous producer with original potential of 2,037 bbls.; and Margay's east offset also was a Siliceous producer, suggesting a trend on that side. The other dry hole indicated on the map in NW cor. section 16, is an old well that may be reworked, as it was drilled before the Bemis discovery.

Most of the activity extended south from the discovery well, with Phillips, Empire, British American and Ryan Consolidated companies participating. Texas and Deep Rock companies just recently became active.

Texas Co.'s first well was a marginal producer at No. 1 Bemis B, SW SW NW section 15, extending production two locations north. It made potential of 475 bbls. of oil, with 22 bbls. of water, from Siliceous lime at 3,423-26 feet, total depth. No offset has yet been started.

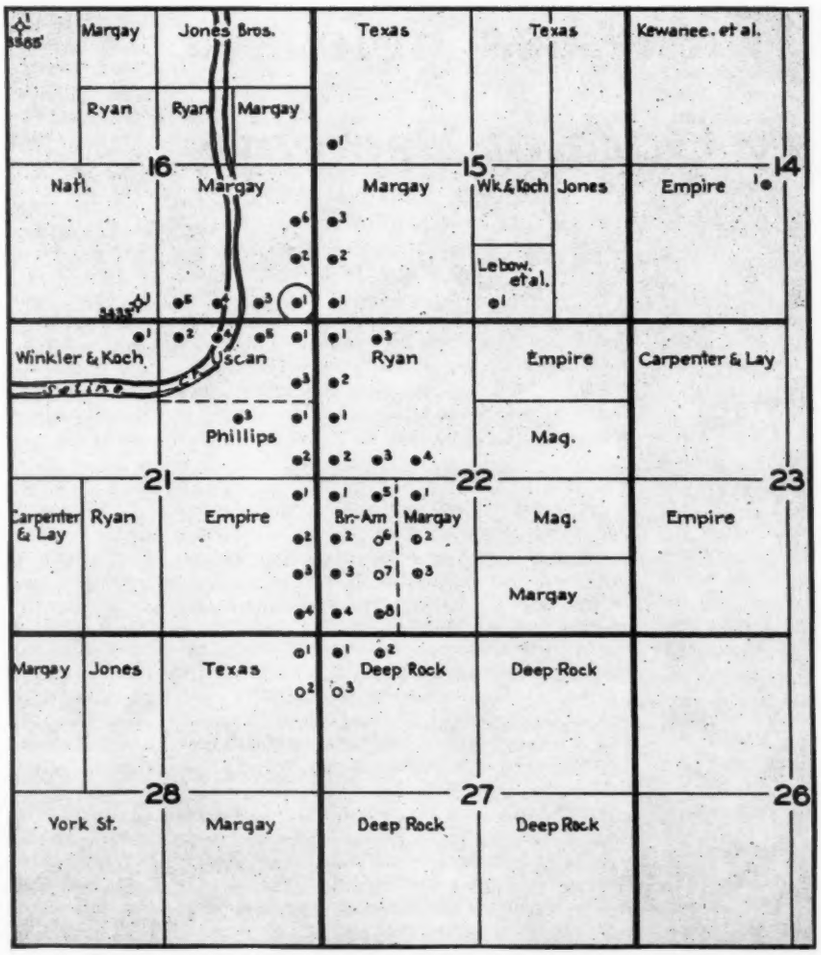
At the opposite end of the field, production was extended one location south by Deep Rock Oil Corp. No. 1 Baumer, NW cor. section 27, which produced 2,620 bbls. of oil in 24 hours from Siliceous lime at 3,444-51 feet, on its initial test; and Texas Co. No. 1 Bemis A, NE cor. section 28, which produced 1,378 bbls. in 20 hours from Siliceous lime at 3,438-45 feet, but will be deepened before completing.

The north offset to Deep Rock's new well, British American No. 4 Bemis C, SW cor. section 22, made potential of 2,949 bbls. from pay at 3,468-76 feet; and north offset to the new Texas Co., Empire No. 4 Bemis, SE cor. section 21, made potential of 2,500 bbls. from pay at 3,390-3,414 feet.

The other recent extension, Margay Oil Co. No. 1 Bemis C, NW NE SW section 22, two locations east of production, made initial potential of 2,347 bbls. with portable rig pump, and undoubtedly will increase that with more adequate equipment. The intervening well, British American No. 5 Bemis C, is near completion.

The south end wells run considerably higher than the northern wells, the south extensions being about 100 feet higher than the lowest well in the pool. Subsea elevations on top of Siliceous lime range from about 1,488 feet in the south end to 1,531 feet in some of the more northerly wells. As a definite example, Texas Co. No. 1 Bemis A, at the south end, had minus 1,467 feet, as against a minus of 1,553 feet for Texas Co. No. 1 Bemis B, at the north.

Possibility of an eventual connection with the Shutts pool to the southwest, is seen in the recent completion of Wolf Creek Oil Co. and others No. 1 Dreiling, NW NW SW section 4-12-17w, as a 1,297-bbl. producer from Siliceous lime at 3,531 feet, total depth. It is one-half mile east and higher structurally than the old wells



The Bemis pool Township 11s-17w, Ellis County, Kansas. Discovery well in Topeka lime is circled. All wells now produce from Siliceous lime

in Shutts pool, which were of small size. Deal Oil & Gas Co. is associated with Wolf Creek in this venture. It is thought this play may swing eastward and northward around old dry holes in SW cor. section 33-11-17w, toward the Texas and Deep Rock leases at the south end of Bemis. York State Oil Co. is starting a test at NE SW section 28-11-17w, southwest of Bemis.

The Cress pool was opened late in March by Lario Oil & Gas Co. and others No. 1 Cress, NE cor. section 13-11-17w, nearly 3 miles east and one-half mile north of the most northerly Bemis producer. It made potential of 2,362 bbls. of oil from Siliceous lime at 3,293-3,302½ feet, total depth.

Two Intervening Tests

No dry holes have been drilled between the Bemis and Cress areas, and the apparent trend of Bemis production to the northeast, on the one side, and to the south on the other, augurs well for future development in this entire sector. Lebow and associates and the Empire company are drilling wells between Bemis and Cress that will greatly stimulate activity in that direction if producers.

The Bemis pool is in an artesian belt. Many wells find flowing water, which has a strong chemical content deleterious to the pipe. This requires running of three strings of pipe, operators cementing 10-inch pipe through the water zone, with an average of 450 sacks of cement.

Gravity of Bemis oil is 34 to 35 degrees. Stanolind Pipe Line Co. takes the oil.

A well can be completed in about 30 days, on the average. Cost of drilling a well averages around $35,000.

When the monthly proration report was issued by the Kansas Corporation Commission April 1, the 31 wells then completed at Bemis had total potential of 68,272 bbls. daily. The percentage of allowable production for April was 4.05, making Bemis rate at the bottom of pumping pools in Kansas in this respect. The Trapp pool of Russell County has percentage allowable of 4.04, but there have been some flowing wells in that area. The Lerado pool of Reno County, with a percentage allowable of 2.32, and the Hauschild area of Rice County, with percentage allowable of 2.73, are lower in this respect than Bemis, but they also have flowing wells.

Bemis also sets the pace for the pumping pools in average well potential. The average potential for the 31 Bemis wells as of April 1 was 2,202 bbls. daily. This was exceeded only by the two flowing pools, Lerado with 4,619 bbls. daily, and Hauschild with 3,479 bbls. daily. Average per well allowable for other major fields in a comparative stage of development was as follows: Bloomer, 1,856 bbls.; Geneseo, 1,442 bbls.; Halstead, 1,791 bbls.; Silica, 1,516 bbls.; Trapp, 1,852 bbls., and Weathered, 1,840 bbls.

Viewed from nearly all angles, Bemis is one of the prize Siliceous lime areas of Kansas and, from all indications, its major development is ahead. Later, when the Siliceous lime play wanes, there may be some development of the Topeka lime horizon, erratic and uncertain though it may be.

Madison Witnesses Released From Jury Oath of Secrecy

MADISON, Wis.—With one major concession won as a result of preliminary motions, defense attorneys in the government's antitrust cases against oil companies are faced with a five-months task in preparation for trial to open September 27.

The decks were cleared, except for arguments on immunity pleas of two defendant witnesses and removal hearings scheduled for May 14 at Houston, Tex., in the case of O. H. Carlisle, Gulf Oil Co. official, when Federal Judge Patrick T. Stone took under advisement on April 21 motions of defendants asking bills of particulars relating to the conspiracies alleged.

Judge Stone simplified the defense task of preparing for trial in one sense when he granted, without further argument, a long standing motion asking release of grand jury witnesses from the oaths of secrecy imposed upon them. Government counsel signified willingness to waive the rule subject to precedent in the local district and the court acted upon their recommendation.

Government attorneys also announced their election to proceed in the September trial on the indictment returned by a second grand jury here on December 2.

This indictment, which was followed by another charging many of the same defendants with combining to restrict jobber margins through uniform contracts, does not differ materially from the original indictment returned July 28, 1936, by another grand jury the legality of which was challenged, except that it more specifically identified P. C. Scullin, Houston, Tex., vice president and general manager of the Indian Refining Co., as a defendant.

Arguments on pleas in bar entered on behalf of Bernard L. Majewski, Chicago, Deep Rock vice president in charge of sales, and Keith Fanshier, petroleum editor of the Chicago Journal of Commerce, were set ahead at least until July 1. Both defendants were grand jury witnesses. Hammond E. Chaffetz, of government counsel, indicated a possibility both may be called as trial witnesses, in which case he said they would be assured of immunity.

Indictments Increased

The court likewise took under advisement motions for dismissal of the indictment against Tide Water Oil Co. of New Jersey, no longer existent, and a demurrer on behalf of Mr. Scullin.

The number of individual defendants in the "price fixing" and "jobber margins" indictments arraigned to date was increased to 63 during the two-day hearings when pleas of not guilty were entered by I. A. O'Shaughnessy, Minneapolis, president of Globe; John A. Brown, New York, president of Socony-Vacuum; and L. L. Marcell, Kansas City, manager of Socony-Vacuum's White Eagle division.

The demurrer on Mr. Scullin's behalf was argued by Attorney H. R. Wilson of Houston, who insisted the government had "no bait on its hook" as far as Mr. Scullin is concerned.

The first indictment identified Mr. Scullin only as an officer of Indian Refining, a subsidiary of Texas Co., but not included among the corporate defendants, and nowhere else in the indictment is there any reference to him, Mr. Wilson argued. And in the December 22 indictment there is only a "beartrap allegation" designed to "catch him one way or another," the attorney declared.

By "left-handed remote control," the government's brief attempts to identify Mr. Scullin as an "agent" of Texas Co., one of the defendants, Mr. Wilson added, but nowhere does the indictment so name him.

There might be an argument as far as the first indictment was concerned, as to whether or not Mr. Scullin was adequately charged as a participant in the alleged conspiracy, Mr. Chaffetz admitted; but the second indictment, drawn specifically to cover Mr. Scullin, left no question but what he was "adequately and properly named" in the phrase, "the following named individuals and officers," he contended.

"There is some question in my mind as to whether he was adequately named as an officer," Judge Stone commented, "but the catchall clause may be sufficient to include him."

"I don't see," Mr. Chaffetz insisted, "what difference it can make if he is named as a individual or an officer. If a man is convicted he goes to jail."

Bills of Particulars Asked

An entire day of wrangling was consumed in arguments on the combined motions for bills of particulars. The defendants maintained, in general, that they have a right to be apprised of the time and places involved in their alleged criminal acts, pointing out that the "price fixing" indictment contains no specific dates or places when they were alleged to have acted in furtherance of their supposed conspiracy. Moreover, it was pointed out, the indictment names only a few of the persons who acted in the alleged conspiracy and "no clew whatsoever is given as to who the other persons are."

Throughout the argument, government attorneys adhered to the position that they had given sufficient particulars in naming the defendants and charging that they conspired "among themselves" during the period from early February, 1935, to the time when the indictment was returned.

And on behalf of a majority of the corporate and individual defendants, Attorneys W. J. Donovan and H. H. Thomas demanded that the government provide the dates and names of all persons present at meetings at which agreements pursuant to the conspiracy are alleged to have been made. Archie D. Gray, Houston, and Ralph Horween, Chicago, argued similarly on behalf of the Gulf companies and of Clyde M. Boggs and Arthur V. Bourque, officials of the Western Petroleum Refiners Association, alleged to have directed the buying pools, and Samuel A. Mitchell, St. Louis, presented the pleading of Shell Petroleum officials.

The allegations in the indictment are too broad and sweeping, Mr. Gray contended, and the Gulf companies will be unable to prepare their defense until they know who is alleged to have involved them, and when, in the alleged conspiracy, he said. These companies, he pointed out, are alleged to have participated only in the East Texas buying pool, but in that state alone they employ upwards of 30,000 persons, including hundreds of quasi-executives or persons with some authority. No agent or employe of the companies was called before the grand jury and they have no means of knowing who alleged that they entered into the agreements, Mr. Gray explained.

"It is an absolute fact," Mr. Gray insisted, "that in all our investigations we have been unable to find any person associated with the Gulf companies who had anything to do with the conspiracy or who even heard of it."

Mr. Lewin attacked the entire defense line of argument as "foolish" and charged it was a "fishing expedition for government evidence."

Congress Faces Dilemma While Waiting for Administration

By HENRY D. RALPH

WASHINGTON, D. C., Apr. 26.—President Roosevelt's economy message was received in congress with mixed feelings of consternation and approval. The advocates of spending our way out of the depression were seriously disturbed at his proposal to hold relief expenditures to $1,500,000,000 and to curtail expenditures where possible. Many other legislators saw the doom of many pet bills involving appropriations. On the other hand, there is a large body of representatives and senators, seriously concerned over the continuing deficit, who are seizing the president's economy plea as an excuse for clamping down hard on all appropriations.

The most effective part of the president's message, so far as congress is concerned, was his announcement that the next session may be called upon to pass a revenue measure revising present tax laws and probably levying new taxes. Congressmen facing primary campaigns next spring and summer do not relish the prospect of facing their constituents immediately after voting new taxes, and are engaging in a whispering campaign to induce their colleagues to keep appropriations pared to the bone in the hope the budget will be in balance next year and new taxes will not be necessary. Another interesting reaction to the message has been the development of a "dog in the manger" attitude on the part of many members who up to now have been championing bills calling for heavy appropriations. Since they now have little chance of getting their own pet measures through they are determined no other new spending shall be authorized.

Social Legislation

The administration's program for social legislation, including regulation of child labor, minimum wages, maximum hours, and agricultural production, is still held in abeyance. Now that economy is the order of the day, at least temporarily, the department of agriculture has practically abandoned hope of expanding its soil conservation and ever-normal granary plans of crop control this year.

A number of bills were introduced early in the session to prohibit interstate shipment of goods made under conditions prohibited by the laws of the states to which they were consigned. Some pertain to child labor only, some included minimum wage and maximum hour provisions, and some were general. The Supreme Court decisions in the Wagner act cases have apparently broadened the powers of congress to give new hope that the federal government may enact such social legislation directly, but President Roosevelt has not indicated his position. As a result, the house committee on the judiciary has postponed action on all bills to supplement state legislation.

In spite of this deadlock, the opinion is that before the end of the session the administration will propose federal regulation of wages and hours in industries engaged in interstate commerce along the suggestions made by Donald R. Richberg, the Council for Industrial Progress, and others.

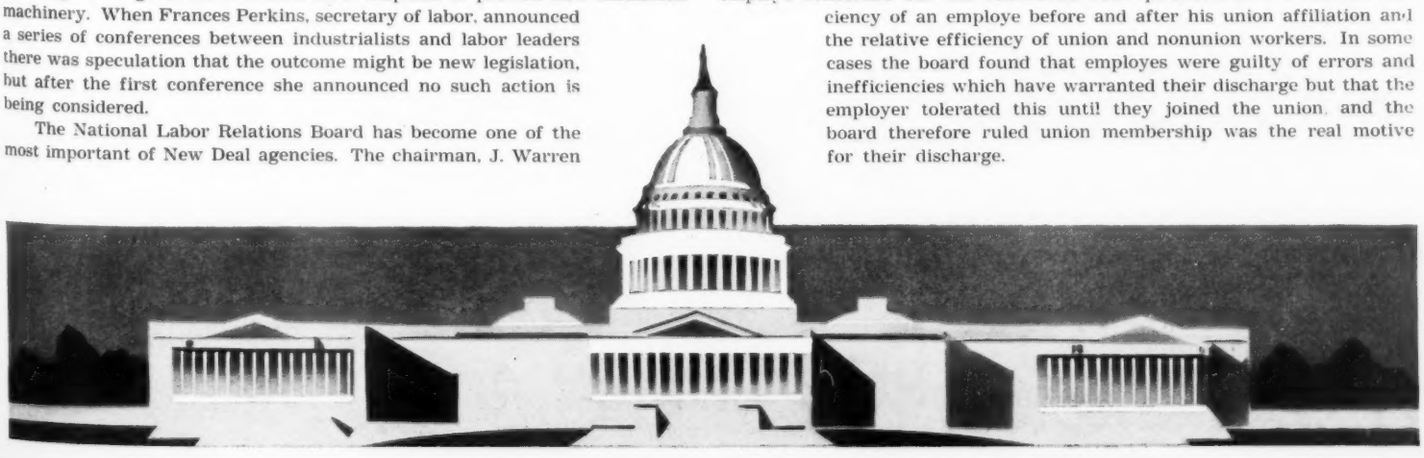
The door has been closed to all proposals for amending the Wagner act or enacting new legislation to reduce labor disputes or provide new mediation machinery. When Frances Perkins, secretary of labor, announced a series of conferences between industrialists and labor leaders there was speculation that the outcome might be new legislation, but after the first conference she announced no such action is being considered.

The National Labor Relations Board has become one of the most important of New Deal agencies. The chairman, J. Warren Madden, is a former law professor at the University of Pittsburgh The other members are Edwin S. Smith, former personnel manager of the Filene department store in Boston, and Donald Wakefield Smith, a former Pennsylvania steel worker.

Now that the Wagner act has been upheld, the rulings of this board have become of vital importance to employers. The Wagner act requires employers to bargain collectively with the representatives of their employes but does not define what constitutes collective bargaining. Nearly one-third of the cases handled by the N.L.R.B. have dealt with collective bargaining. Rulings have made it clear the requirements of the act are not satisfied simply by meeting with representatives of employes and listening to their demands and grievances, even if most of these demands are met by the management. The board has ruled an employer must enter the negotiations in good faith with intention of discussing labor problems and reaching a solution through a give and take process. It is not required the employer grant all the demands of his employes nor need he continue negotiations indefinitely if he has made an honest attempt to reach a settlement but a deadlock has developed. However, the board has required the employer to exhaust every possibility of a settlement before discontinuing negotiations. The law permits any employe or group of employes to submit grievances to the employer, and the employer may make employment contracts with individual workers, but the N.L.R.B. insists this is not collective bargaining and may not be used as a means of avoiding the obligation to bargain collectively. In other cases the board has ruled that an employer is not warranted in refusing to negotiate on the ground that employes are seeking a closed shop agreement (which is permitted but not required by the law) or on the ground that union organizers have made false statements and impossible promises to employes.

Wagner Act

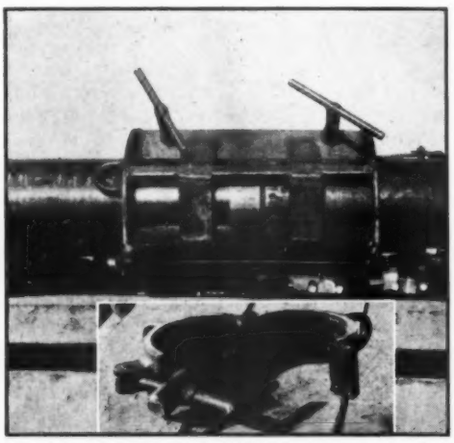
The chief cause of complaint under the Wagner act has been discharge of workers for union activity. This was involved in each of the cases carried to the Supreme Court, and in each instance the court accepted the findings of the board that certain employes had been dismissed for this reason. Decisions of the N.L.R.B. have made it plain the law is not intended to interfere generally with the freedom of an employer to hire and fire as he pleases, and has ruled he may employ anyone or no one, may transfer employes from one job to another as he sees fit, and may discharge, demote, or promote employes on the basis of efficiency, personal animosity, or sheer caprice provided he does not differentiate between union and nonunion employes or potential employes in such a way as to discourage union membership. Of course, in most instances, an employer has denied that union activity was the cause for discharge or demotion, and this has made it necessary for the board to attempt to determine the employer's real motives. In doing this the board has not attempted to determine for itself the individual efficiency of the employe concerned but has considered such questions as the relative efficiency of an employe before and after his union affiliation and the relative efficiency of union and nonunion workers. In some cases the board found that employes were guilty of errors and inefficiencies which have warranted their discharge but that the employer tolerated this until they joined the union, and the board therefore ruled union membership was the real motive for their discharge.



Welded Joint Casing Run in Oklahoma Deep Well

By L. G. E. BIGNELL

An advancement in well completion practice was inaugurated last week when a 5,968-foot string of 8⅝-inch 36-pound casing was welded and run into Carter Oil Co. No. 4 W. T. Miller well in the Crescent field, Oklahoma. This is the first flow string of welded casing to be run into a well in the Mid-Continent and was accomplished only after some time had been spent by the Carter Oil Co. engineers in working out every detail for the work.



Line-up clamps and pick-up clamps used in welding 8⅝-inch casing

The casing used is of the butt welded type and the "U" shaped grooves for the welding metal were cut at the pipe factory. The wall thickness of the pipe is .4 inch and the lands are one-eighth inch wide. This type groove permits of the ends of the two joints of casing being butted together and the groove filled with welding metal and gives a joint stronger than the pipe.

The pipe was made in 40-foot lengths and in handling it at the well two joints at a time were rolled onto the runway. A special clamp for going over the end of a joint of pipe was made in the Carter Oil Co.'s shop. The first joint of pipe was hoisted into the derrick, then lowered into a rat hole so that the upper end of the joint of pipe extended above the derrick floor to a height convenient for the welders. This pipe had a slight angle, but this gave no trouble, for the second joint of casing was lowered to the top of the joint in the rat hole and centered with another pair of clamps, also made in Carter Oil Co.'s shop.

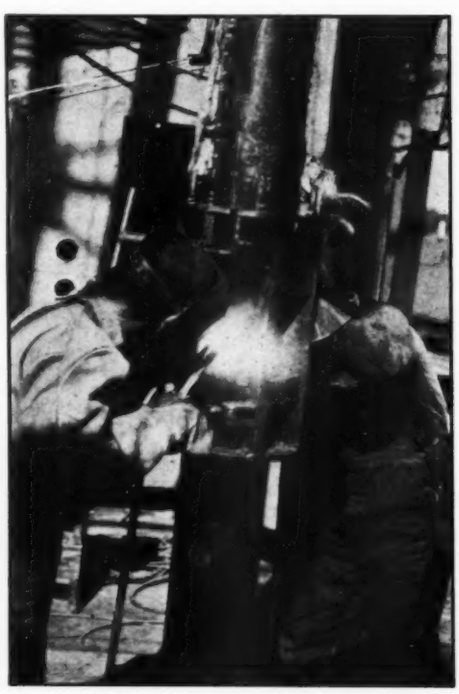
Holding the two joints of pipe in this position, two welders first tacked the joint in two or three places to firmly join the pipe ends together. The clamp was then removed and the balance of the weld completed. This double joint of pipe was then hoisted into the derrick and lowered into the well. Casing spiders held the casing at the proper height above the derrick floor to permit the welders to again complete their work of joining the double joint of pipe to the string going into the hole.

At all times there were four welders at work with two helpers. There were three extra welders on hand and two extra helpers and these men took turns at the work so the job was carried on continuously day and night until completed. It required about seven and one-half minutes for each weld, which time includes hoisting and lowering pipe and completing the welding operations. It required on an average of about five and one-half minutes to actually make the weld, and as the electric method was used it was found the weld cooled sufficiently to permit the pipe to be handled immediately after the weld was completed. The heated area above and below the weld was reduced to a minimum, which permitted this quick cooling. This feature materially speeded up the whole operation and permitted the completion of the job in 27 hours.

Electric power was furnished by four generators located near the well and there was no interruption in the work except time taken to fill the inside of the casing with water after each 20 joints were welded and run into the hole. This was done to equalize pressures on the pipe. The lower end of the string of casing was provided with the usual type float collar and shoe and no trouble was experienced in lowering the pipe except at one point where there was a slight offset in the hole, but the delay there was very brief.

After the casing was in position, 1,000 sacks of cement were pumped in behind the pipe.

The success of this undertaking is attributed to the fact that the Carter Oil Co. has been training all welders in oil-field practice. These men have been in service for this company for periods up to 15 years, but they have been in special training during the past 18 months in the Carter Oil Co.'s shops. This general training prepared them for special instructions in welding casing, and for some time past these welders have been practicing on short sections of casing in the shop. After making the welds, coupons were cut from the pipe sections and tested in pulling machines. Only when a welder could consistently make 100 per cent welded joints was he considered proficient. The welders who actually worked on the string at No. 4 Miller well all had passed these tests, and while it was impossible to test casing by cutting coupons after welding it is believed the 100 per cent joint was closely approximated in the actual work.



Tacking 8⅝-inch casing in rathole before line-up clamp is removed at Carter Oil Co. No. 4 Mitchell, Crescent field, Oklahoma

Lining up casing preparatory to welding at well head

L. R. Hodell, engineer with the Carter Oil Co., had charge of the design and running of this string of casing, and after this first successful operation there are a few changes to be made to speed up the work, but on the whole the practice as laid out will be followed in running long strings of casing in the future. The use of welded surface strings has been quite common for some time. The reason that flow strings have not been welded more commonly in the past is because the type of casing available had not been made of steel selected to meet welding requirements, which were fully met in the 8⅝-inch string just run.

Michigan Exposition

Michigan's third annual oil and gas exposition will be held August 10 to 15 at Mount Pleasant. Governor Frank Murphy has accepted the honorary chairmanship. Leading members of the Michigan Oil and Gas Association comprise the committee.

Ed Moore Has Run Scale of Oil Experiences

By T. F. SMILEY

Friends of Mr. Moore say this is the best picture of him ever taken. And he didn't know it was being done

Back in Ed Moore's boyhood on a Missouri farm he would have chuckled amusedly at a suggestion that some day he would be using a whole floor of an office building and that his name would be associated with famous oil pools and big oil operations. Why, he was going to be an educator.

At the entrance to his suite of offices in Tulsa is just the sign, "E. H. Moore." Everybody is busy. The person with a light, chatty hour to put in decides this is the wrong place.

The boy who did farm chores in unscreened wide-openness than which nothing could be more wide open has been driven to the device of having his private office so located that the casual caller cannot accidentally stumble into it. There is no hint of high hat about this. It is the penalty of acquiring interests so extended that every business hour must be utilized. Minutes must be budgeted.

Success? Mr. Moore shies at the word. He evinces a feeling there is something phantom about the success which has stuffed magazine pages with words and pictures. He waves aside the idea that sagacity carried him into the upper brackets. When conversation touched the outskirts of this subject he grinned affably:

"You've got to get the breaks."

Something of the man's philosophy is imbedded in that remark.

E. H. Moore is an independent oil operator—"damned independent," one commentator without venom described him. He first moved into general view in 1919, when he organized the Independent Oil & Gas Co. In the succeeding 10 years that organization's crowded story formed one of the epics in Mid-Continent petroleum. The Independent, which developed an estimated value of $50,000,000, is now a subsidiary of the Phillips Petroleum Co. The winds which carried it there were whipped up by the economic hurricane of late 1929.

Most of the company's vivid narrative is a matter of common knowledge. Some of it—more particularly that part in which financially wounded men fought to save their business lives—is legendary. From the time the company was organized until, helpless to stem adverse tides, he saw it drift from his control, Mr. Moore was president.

The central figure in the Independent's varicolored life discovered America in Barnard, Mo., 66 years ago. A one-room schoolhouse was his temple of learning. After going as far as its limited range of textbooks would take him he worked on his father's farm. At 18 he had a job for a year as a laborer on the first of Colorado's irrigation projects, in the Rocky Ford district. Returning to the farm, he remained there till, at 21, bitten by an ambition to become an educator, he took a year's course at the Chillicothe (Mo.) Normal School. This required $300, which was quite outside the Moore resources. Young Ed—even then his credit rating seems to have been good—borrowed the money. Monthly salaries of $30 to $35 were the reward of his work as country school teacher. He paid off his debt and felt, with a sense of pride, that he was coming on.

There were long summer vacations, and Ed had to admit to himself that his income of $270 to $315 a year was not likely to create any pressing need for an investment counselor. His plans for a teaching career became unsteady as time passed. He observed that lawyers seemed to get along pretty well, and the profession had a growing appeal for him. Perhaps after all he was meant to be a lawyer. Anyway, it wouldn't be a bad idea to pick up a little legal knowledge. One never knew what might happen. So he began using the summer vacations studying law in the office of a Chillicothe attorney. A decision to become a lawyer crystallized.

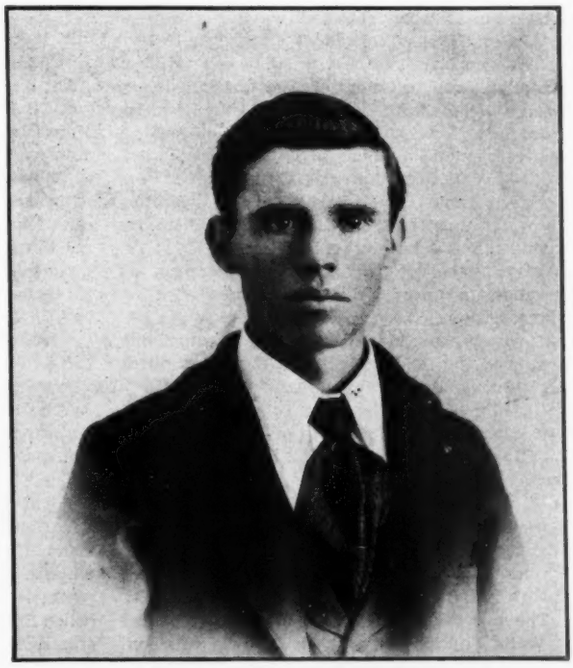
In September, 1899, young Moore got a teaching position in a suburb of Kansas City, Mo. He attended evening classes at the Kansas City School of Law, graduated in the spring of 1900 and was admitted to the bar. Shortly afterward he entered the law office of Ramsey & Blagg, in Maryville, Mo. His income here was nothing to excite envy. In 1901, believing he could do better in a new country, he headed for Okmulgee, Indian Territory, arriving the day the treaty with the Creek Indians was ratified. On admission to the bar of Indian Territory the newcomer formed a partnership with E. T. Noble. Following the allotment of Indian lands many of the Creeks promptly sold out to farmers. Grafters flocked to the scene, eager to prey on the Indians. Ensuing years witnessed much litigation over land. This litigation and the legal minutiae attending property transfers gave the law firm of Moore & Noble plenty to do. A lucrative practice grew up.

The partnership made $1,800 the first year, and when it was dissolved 18 years later the annual income had grown to $30,000. Mr. Moore invested much of his share in farm lands, some of which became valuable oil property. He invested, too, in oil royalties and leases. Good luck walked beside him.

Mr. Moore had been familiarizing himself with the swift-shifting aspects of the oil industry growing up around him, and when in 1919 he set the Independent Oil & Gas Co. on its way he was ready to throw all his resources and capacity for management into it, cutting himself virtually clear from previous interests.

The scene had changed for the former Missouri farmboy, who once had considered $30 a month as opening the gates to ease and affluence. Law practice, farm lands, royalties, leases and other well-chosen investments made it possible for him to put $250,000 into the new venture.

J. W. McCullough, a close friend, was actively associated with Mr. Moore in development of the company. Mr. Noble, who continued alone to carry on the law business built up by the partnership,



At 24 Mr. Moore was getting $30 a month as a school teacher and the world looked bright

invested some money and was made a director. These and a few others brought the paid-in capital up to about $300,000. The authorized capitalization of the company, incorporated under the laws of Delaware, was $900,000.

The immediate program of the Independent Oil & Gas Co. contemplated producing operations in the Baldhill, Beggs and Mounds areas of Oklahoma. Results there were encouragingly profitable, though not startling. The company's activities were widened. It appeared in all the major pools of the state. Its first big strike was on the Holmes lease in the Lyons-Quinn pool, Okfuskee County, in November, 1921.

The story of how the No. 1 Holmes came to be completed is worth telling. Jeff Quinn had acquired an 80-acre lease, but he lacked money to get pipe for a test well. Ed Moore agreed that the Independent should provide the pipe in return for a quarter interest in the lease. Mr. Quinn carried the hole to about 2,500 feet with nothing to show for it but debts of $5,000. Creditors were camping on his trail. He explained his plight to Mr. Moore. The Independent assumed responsibility for the debts and told Mr. Quinn to go ahead with the test, taking in payment another quarter interest in the lease. Any wildcatter who has found himself in a similar predicament does not need to be told what sort of terms usually are exacted. On going about 100 feet deeper Mr. Quinn struck the Lyons sand. The No. 1 Holmes had an initial production of 700 bbls. daily. A few days later the Independent paid Jeff Quinn $320,000 for his half interest in the lease.

The Independent drilled seven more wells on the 80 acres. Its peak production in this pool was 14,000 bbls. daily, and oil was $2.25 a barrel. The lease netted the company about $3,000,000.

The company proceeded under its own financial steam until 1923. That year was marked by important developments. One was sale of $1,000,000 worth of stock through a New York banking house. The Independent stock was listed then on the New York Stock Exchange. In 1923 too the company, jointly with Johnson D. Hill, of Oklmulgee, now president of the Atlas Life Insurance Co., drilled the discovery well in the Rainbow Bend field, Cowley County, Kansas. The pool, a relatively small one, reached its peak production, 20,000 bbls. daily, in June, 1925. In the same year Mr. Hill became affiliated with the Waite Phillips Co., which thus acquired a half-interest in the Independent's Rainbow Bend holdings.

In 1925 the company, desiring to expand its operations, acquired additional capital by floating a bond issue of $3,000,000. In that year W. C. Durant, whose name loomed large in the automobile manufacturing field, bought into the Independent and became one of its directors.

On July 16, 1926, the No. 1 Tolof Fixico, on an 80-acre lease owned jointly by the Independent and R. F. Garland, near the center of Seminole County, Oklahoma, hit the Wilcox pay, setting off a race for oil which brought about revolutionary changes in production methods. The No. 1 Fixico developed a daily output of 8,000 bbls. Within 60 days after its completion more than 100 strings of tools were at work in the field.

The next year, 1927, the Philmac Oil Co., owned by Waite Phillips and Otis McClintock, was consolidated with Independent. This gave the treasury about $2,000,000 more working capital. R. B. Pringle, now vice president of the Tide Water Oil Co., had been made a director of Independent just before this. The company, which already was operating a refinery in Okmulgee, bought the Manhattan Oil Co. in 1928, thus acquiring a refinery in Kansas City, Mo., with retail outlets in Missouri, Kansas, Iowa and Nebraska.

The Independent's financial setup, relatively simple at its organization, with Ed Moore in unquestioned captaincy, was showing signs of unwieldiness. Mr. Moore was still president, but he no longer had a controlling interest. New and fateful forces were at work. What would they do?

The Phillips Petroleum Co. made a proposition in 1929 looking to absorption of Independent through an exchange of stock. After months of negotiations the plan was rejected.

The thunderbolt of October, 1929, fell. Values melted. Cakes of ice on the sidewalk under a July sun.

Mr. Moore employed his credit to support Independent Oil & Gas Co. stock in the crumbling market. Thousands of others were fighting futilely to avert disaster. Striking back at lightning with tenpins.

On November 13, 1929, a banking house compelled Ed Moore to resign as president of Independent. He still held a large block of stock and remained on the board of directors.

What happened from that point has been the subject of many stories, some true, some half true and some pure twaddle. Out of the jumble of fact and fiction emerged at least this clear fact, that Ed Moore no longer was connected with the organization which he had created. The Independent Oil & Gas Co. was now a wholly owned subsidiary of the Phillips Petroleum Co.

They tell of all-night conferences at which harried men, driven by the primal instinct of self preservation, strived desperately. Friends of Ed Moore say he battled for their interests as hotly as for his own. Whatever bruises he may have suffered, he did not sulk. Anyway, they probably were no more painful than the ones others were rubbing.

One apocryphal story said Mr. Moore emerged broke. That hardly could be true, for almost before the dust of combat had settled he appeared as the purchaser of a 10,000-acre cattle ranch in Okmulgee County, Oklahoma. He still owns the ranch.

Those who knew Ed Moore best predicted he "wouldn't hang around a cattle ranch long." They were right. He figured in no important oil operations, however, till 1933, when Harry L. Wirick, A. D. Cochran and Fred G. Moser acquired a block of about 1,800 acres in the Fitts area, Pontotoc County, Oklahoma, and made a deal with Mr. Moore by which he was to drill a cable-tool test. This well, designated as No. 1 Wirick, finished in August, 1933, at a total depth of 3,451 feet, yielded 65 bbls. of oil daily from the Hunton lime. Gas wells had been completed in the Fitts pool, but this was the first oil producer.

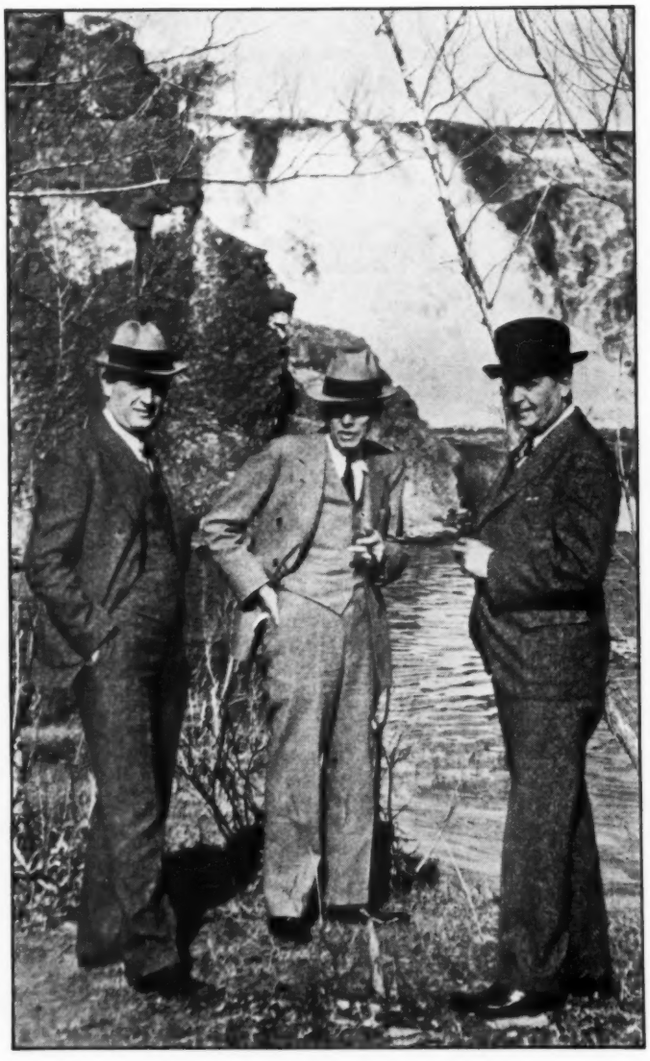
No. 2 Wirick, a north offset to No. 1, then was drilled by Mr. Moore and his associates to the Simpson series. This well, bottomed at 3,990 feet, was reported good for 60 bbls. an hour. That started a rush for leases, and a lively drilling campaign soon was under way.

Some folk may have been caught napping here, but Ed Moore was not among them, as a lease map of the Fitts pool, with his name splashed all over it, reveals. He and his associates have 3,000 acres under lease. They have completed 175 wells and are running 15 strings of tools. They have taken 10,000,000 bbls. of oil out of the field since it was opened and they have a daily potential tubing production of 330,000 bbls. They are selling 22,000 bbls. of oil daily and they have 50 proven locations still to be drilled.

So whatever Ed Moore's financial status may have been when he first found himself surveying the Independent Oil & Gas Co. from the outside, there does not seem to be at the moment any ground for fear he will suffer from want of proper food and clothing. Additional reassurance on this point is seen in the fact that besides his Fitts pool holdings, he owns either personally or jointly with a few associates 19 wells on small leases in East Texas; six wells in the Beebe pool, Pontotoc County, and 3,000 acres of undeveloped land in Miller County, Arkansas.

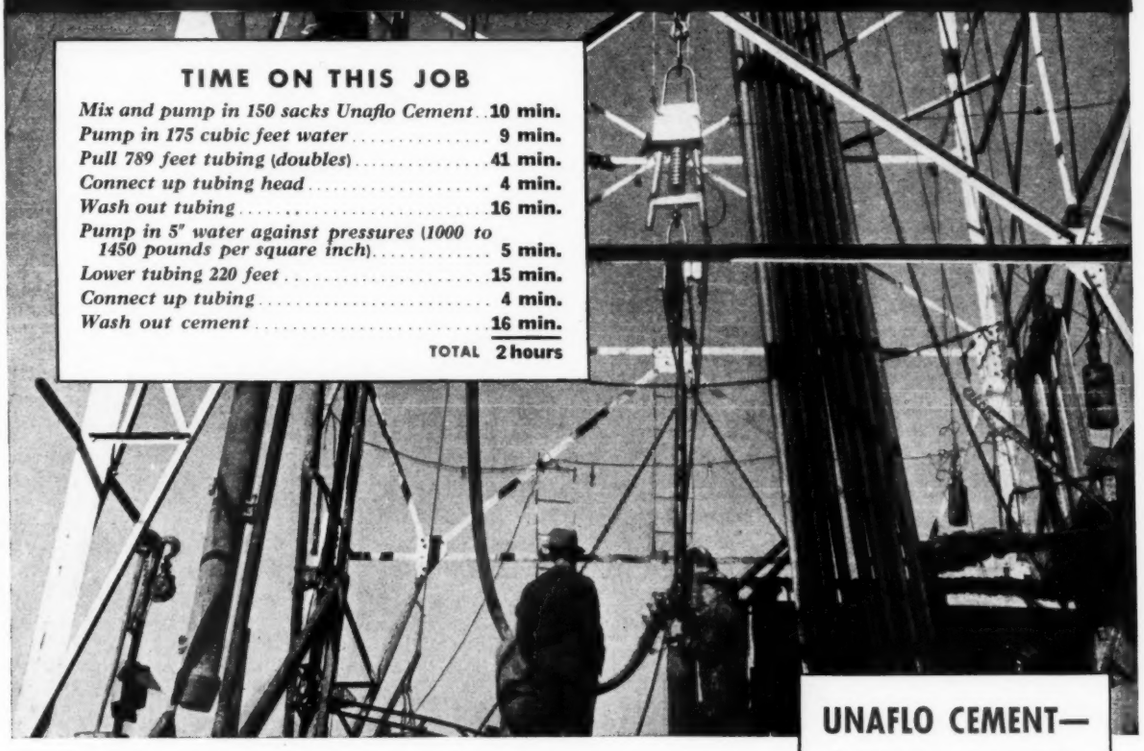
It becomes clear why he needs an entire office-building floor and a big staff of employes.

Ed Moore might be said to have hobbies in business management. He does not deny feeling a little puffed up over the workmen's camp he has established in the Fitts pool. He set out to make it the best in the oil country. And by the Lord Harry, he declares with enthusiasm, it is the best, too. Maybe he's right. Anyway, each of the 40 neat, well-built frame houses is equipped with electric light, gas, bath and modern plumbing. Each has



H. L. Wirick, Ed Moore and J. J. Deaner were enjoying one of the beauty spots in the Arbuckle Mountains when somebody with a camera snapped them

Operator says Unaflo saved $300.00 on this job!



TIME ON THIS JOB

Mix and pump in 150 sacks Unaflo Cement	**10 min.**
Pump in 175 cubic feet water	**9 min.**
Pull 789 feet tubing (doubles)	**41 min.**
Connect up tubing head	**4 min.**
Wash out tubing	**16 min.**
Pump in 5" water against pressures (1000 to 1450 pounds per square inch)	**5 min.**
Lower tubing 220 feet	**15 min.**
Connect up tubing	**4 min.**
Wash out cement	**16 min.**
TOTAL	**2 hours**

● An Oklahoma City well was found to have 259 feet of open hole below the 7-inch shoe at 6122 feet. To plug back, tubing was lowered to 6113 feet, and water pumped in for more than two hours without returns.

150 sacks of Unaflo Cement were mixed into a heavy slurry, pumped into the tubing and partially displaced with 175 cubic feet of water.

The tubing was lifted 789 feet by pulling twelve doubles and one single, and flushed. The cement was squeezed at 1450 pounds per square inch.

After applying the squeeze there still remained an excess of 220 feet of cement in the casing. After one hour and 44 minutes, the tubing was lowered 220 feet into this cement which had been subjected to temperature and pressure; circulation was reversed and the excess cement (220 feet) was washed out through the tubing in 16 minutes. A perfect job completed with the top of the cement body exactly where the operator wanted it.

Unaflo made it possible to complete the job without moving in tools to drill out the excess cement. Try Unaflo on your next job.

Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), Amicable Bldg., Waco, Texas; Kansas City; Tulsa; Oklahoma City.

UNAFLO CEMENT—

1. Gives you more time to get it down.
2. Remains fluid longer.
3. Follows irregularities of well bore and casing.
4. Hardens thoroughly with high density after it is placed.
5. Displaces contaminating elements in the well.
6. Not stiffened by mud contamination.
7. Not stiffened by salt water contamination.
8. Sets satisfactorily in sulphate water.
9. Requires no ice.
10. Makes squeeze and plug-back jobs easier, surer and more successful.

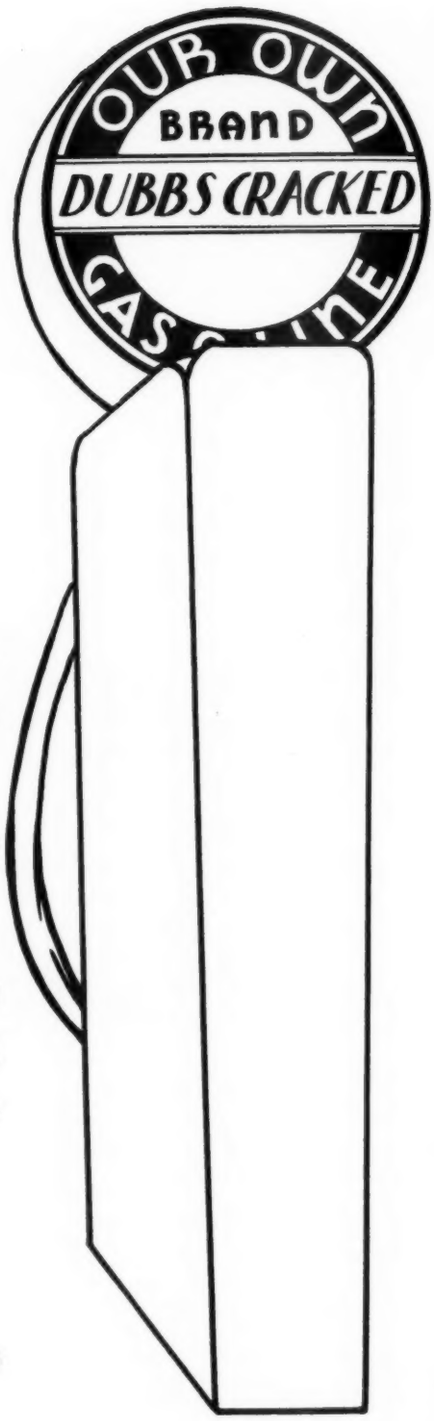
U-10

USS

UNAFLO

FOR SAFE DEEP-WELL CEMENTING

Tell them the real story



If you sell your gasoline blind, the motorist knows he has to take his chances—and you have to take your chances on his business

If you just tell him it's "the best" he may not believe you—he's heard that before

If you tell him it's the best because it's Dubbscracked he's interested He tries it and comes back—you have made another customer

It pays to sell Dubbscracked gasoline

You can sell it in sign language

A sign on every pump to tell them it's YOUR Dubbscracked gasoline

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

an electric refrigerator, and there is a garage for every house. What is much to the point, too, each workman seems able to keep a car in the garage.

Besides this provision for workmen with families there is a modern bunkhouse for 75 men, with a boarding-house. These are operated at low cost to the men.

Mr. Moore always gives his employes a participating interest in his business. He has ideas about building up loyalty. They don't seem to be impelled by mere commercialism either, though nobody ever accused Ed Moore of failure to keep a watchful eye on his own interests or of unwillingness to fight for them.

You Dig to Find Out

Some of Mr. Moore's activities you have to find out about from others—if you find out at all; for his disinclination to let his left hand know how the right one is occupying itself makes a graven image resemble a village gossip. There was the time, for example, in November, 1935, when the American Petroleum Institute's annual meeting was held in Los Angeles and he chartered an entire Pullman car, in which he took a group of his department heads, with their wives. After the A.P.I. meeting the party boarded a vessel and sailed down the Pacific Coast, through the Isthmus of Panama and around to New York. Then westward by rail to Tulsa. All expenses were paid by Mr. Moore. You uncover things like that by poking around among his friends.

There are charities, churches and various causes which you find he has helped. There are boys, you discover, to whom a college course would have been beyond reach but for a hand from the man who once had to borrow $300 to get a year at normal school.

In 1919 Mr. Moore began the practice, adhered to ever since, of giving Christmas checks to employes. They came from his private account, not from company funds. The first years the checks went to women employes only. Later the beneficiaries included all on the payroll.

Last summer the 200 or so Moore employes in the Fitts area received notice to report at the superintendent's office. Mystified, and in some cases a little uneasy, they did so. Each received a check bearing Mr. Moore's signature.

On coming back from a hotel where he had passed several vacations Mr. Moore remarked: "There must be a lot of persons working in that hotel who never see a tip. Waiters, bus boys and so on are taken care of. But what about the folks in the kitchen, in the laundry, in the boiler room, the odd-job employes?" He turned to his secretary: "I wish you would write to the management of the hotel and ask for a complete list of employes and their jobs."

A check was mailed to each of the hotel's scores of "forgotten." A shower of grateful letters came in return.

Mr. Moore married Miss Cora McComb, of Lamar, Mo. They reside in Tulsa. They have no children of their own. That probably is one reason children of others capture their interest.

After being cloistered in his office for about so long Mr. Moore surrenders to some urge inside him, locks his desk and tells subordinates to look after things for a while. The farmboy galled by confinement. Although a member of various country clubs he does not play golf. Travel is his best-loved diversion. So when the hunger for fresh scenes becomes too strong he and Mrs. Moore pack up and are off, by rail, motor, ship or plane—maybe to some spot in this country, maybe to Europe. Just a few days ago they sailed for London. The coronation, you know.

On the return from these trips Mr. Moore takes a springboard dive into his work. Thereafter he comes up only occasionally for air.

OBITUARIES

E. T. CRAWFORD, well known operator in the Eastern fields died recently. He was born in Charleston, W. Va., July 5, 1872, and was descended from the Ruffners, pioneers in salt well drilling of the Kanawha Valley. He began to sell sandwiches at the C.&O.R.R. station at nine, and stopped school at 14 to help support his mother and younger brothers, working as a clerk, surveyor, and proprietor of a store before attaining 25. He entered the oil and gas business, leasing and drilling the first wells of the Blue Creek field, West Virginia, subsequently aiding in opening fields in Roane, Putnam, and Cabell counties, West Virginia, and in eastern Ohio. He was associated with the Merritt Oil Co. in Oklahoma and Big Horn County, Wyoming. Crawford & Ashby were associated with Ab Humphreys in Oklahoma and Texas. Two wells were drilled in south Kansas to find gas. The gas would not burn and was judged worthless. Later analysis showed it to contain helium. Mr. Crawford bought and sold leases at Smackover, Ark., in 1923 and several years later when the field was booming. He married Katharine Burrows in Charleston, July 20, 1897, and they reared four children. He was ill with a heart ailment for about four years preceding his death.

E. T. CRAWFORD

CLARKE C. HYATT, of Detroit, partner in the Michigan oil and gas development firm of Hyatt & Norton, died recently of internal hemorrhages in Harper hospital, Detroit.

WILLIAM HENRY CROWDER, 63, veteran independent oil operator of Tulsa, died April 22 after a two-year illness with heart trouble. He was a native of Fayette County, Tennessee. With the admittance of Oklahoma to statehood he moved to Shawnee in 1907 and in 1918 to Tulsa. He was associated for many years with J. Garfield Buell and affiliated concerns and in 1930 became active in the East Texas field. He resided at Longview until he became ill two years ago and returned to Tulsa.

STEPHEN B. SMITH, 57, of Tulsa, vice president and part owner of the Pioneer Drilling Co., formerly known as the Steinberg-Smith-Duval Co., died April 23, after a long illness. He had been a Tulsan for 26 years moving from Marietta, Ohio, where he entered the oil business. Before moving to Tulsa he was employed by British American Oil Corp. in Mexico.

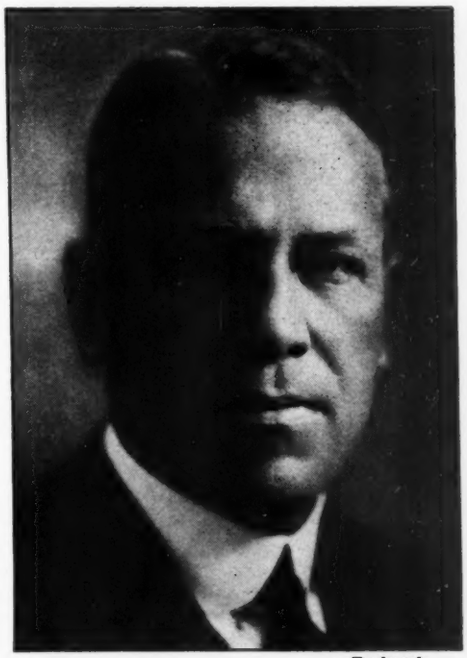
CHANDLER A. OAKES, 40, general superintendent of Godfrey L. Cabot, Inc., died at Charleston, W. Va., last week. He was a native of Kingston, N. Y., and a graduate of the Renssalaer Polytechnic Institute in 1923.

BEN R. MILLS, 53, for 19 years geologist with Mid-Continent Petroleum Corp. in Tulsa, died April 23, after a two-day illness. He was a member of the Tulsa Geological Society. He had been a resident of Tulsa 20 years, having moved there from Nebraska.

RALPH M. MOON, 43, president of the Moon Marketing Co., died at his home in Tulsa, April 21, after an extended illness. He was an authority on the marketing of natural gasoline and petroleum products. A native of South Salem, Ohio, he moved to the Mid-Continent and after working for several companies formed his own company.

DOUGLAS DUNNING, 39, brother of the late W. H. Dunning, Jr., well known independent, was killed in an automobile accident near Liberty, Tex. He had recently moved to Fort Worth from East Texas, to become associated with the Dunning oil interests.

CHESTER ODIORNE SWAIN, 60, of New York, vice president, a director and a member of the executive committee of the Standard Oil Co. of New Jersey, formerly its general counsel for 20 years, died April 21. He joined the company in 1906 as a member of the legal department. He became general attorney in 1911 and, in 1915, general counsel, a post he held until 1935, when he became a vice president. He had been elected a director in 1927 and a member of the executive committee the same year. He was born in Shenandoah, Iowa. As general counsel he dealt with the dissolution of the old Standard Oil Co., the wartime capture of ships owned by the company's German subsidiary, relations with foreign governments, investigations, legislation, mergers and the reorganization of the domestic units.



—Bachrach

CHESTER O. SWAIN

Oil News from Foreign Lands

Venezuela May Establish Record

Crude oil production from Venezuela probably will set another all-time record of 170,000,000 to 175,000,000 bbls. in 1937, exclusive of what may be developed by the current and projected wildcat drilling program. The current year's increase over 1936 may be even greater if some of the active wildcat tests in various parts of the country, but chiefly concentrated in the eastern states, should develop new commercial production not now apparent.

Despite the scope of the current wildcat drilling program and the fact that approximately 35 geological and geophysical parties are working in various undeveloped sections of Venezuela, the proven fields in the Lake Maracaibo district will continue to supply the bulk of production. In stimulating production from the Lake Maracaibo district, companies holding concessions there are accelerating their drilling programs and extending exploitation into undeveloped reserves.

Outstanding in the work of developing reserve concessions is the current work by Mene Grande Oil Co., formerly Venezuela Gulf, in the Tia Juana pool, immediately north of Lagunillas. To date, Mene Grande has completed five producing wells in the Tia Juana concession, which is a strip 1 kilometer wide bordering the Lake Maracaibo shoreline. Concessions on the land immediately east of Mene Grande's holdings is owned by Venezuela Oil Concessions, Ltd., and the submerged property under the lake waters is held by Lago Petroleum Corp., subsidiary of Standard of New Jersey. Failures drilled from time to time over the past several years seem to exclude the possibility of Tia Juana eventually linking with Lagunillas. Scattered completions in the Tia Juana district indicate several hundred locations will be available for drilling. On Mene Grande's property alone in the Tia Juana pool, production of 7,000 bbls. per day has been developed since the first of this year when activity there was authorized. Production in the Tia Juana district ranges in gravity from 15.6 to 17.3 and completion depths vary from 2,750 to about 3,450 feet, depending on structural position. Venezuela Oil Concessions and Lago are just now preparing to launch their campaign in the Tia Juana district and it probably will occupy a much more prominent position in Venezuela production during the last half of 1937.

Bulk of the actual wildcat drilling in eastern Venezuela has been concentrated in the states of Monagas and Anzoategui. Developments have given encouraging indications, but commercial value remains an unknown quantity. Companies engaged in the exploration work maintain the greatest possible secrecy about actual results. Rumors which seep into this country cannot be confirmed definitely, although continued appropriation of funds for further exploratory work is generally accepted as positive indication that results are adequate. Furthermore, the employment of upwards of 35 geophysical parties in various wildcat districts is considered positive proof that drilling operations have given cause to extend the search.

Probably the most active company in primary exploration is Caribbean Petroleum Corp., an operating subsidiary of Royal Dutch-Shell interests, which has about a dozen parties working in various parts of Tachira, Caracas, Cojedes, Guarico, Anzoategui, Monagas, Zamora, Zulia and Apure. Part of this work is no doubt a follow-up on new concessions recently obtained in the name of Venezuelan Oil Development Co., Ltd., another Shell subsidiary. Venezuelan Oil Development Co., acquired exploration and exploitation concessions on 659,670 hectares, about 2,500 square miles, in the states of Zulia, Trujillo, Apure and Barinas. Exploration concessions will be granted on 526,100 hectares and exploitation concessions on 133,570 hectares, approximately 2½ acres to the hectar. In obtaining the concession, Venezuelan Oil Development paid $2,655,531 in advance, against initial taxes and assumed obligation to construct additional refining capacity in Venezuela. The company may discharge its refinery construction obligation assumed in the latest concession transaction by adding 10,000 bbls. daily capacity to its existing plant at San Lorenzo which is rated at 11,000 bbls. daily, or by building a complete new plant elsewhere in Venezuela with capacity of 15,000 bbls. per day. Caribbean Petroleum Corp. is credited with four field geological parties working in Tachira, Caracas and Cojedes. The company has a seismograph crew working in central Guarico and torsion balance parties in southern Anzoategui, Monagas and Barinas. Other crews are working for the same company in the district of Paez in the state of Zulia and in Barmas and Apure.

Colon Development Co., which plans at least three wildcat and semiwildcat tests this year is rechecking with seismograph in the district of Colon, near the Venezuela and Colombia international boundary.

Socony-Vacuum Oil Co., Inc., which figured in one of the largest concession transactions of 1936 with the Venezuelan government, has two magnetometer crews and a geological party working from Pariaguan south to the Rio Orionoco in the district of Miranda in the southern part of the state of Anzoategui and also in the eastern part of the state of Guarico in the district of Zaraza.

Standard Oil Co. of Venezuela, one of the most active Venezuelan concerns in exploration work, particularly in the eastern part of the country, has seven or eight geological, torsion balance, magnetometer and seismograph parties deployed over a large scope of territory. Work is in progress in the district of Roscio, state of Guarico, in eastern Guarico, in the district of Aragua, state of Anzoategui and in the southern part of Amacuro Delta.

Lago Petroleum Corp. is resuming its seismograph exploratory work in the district of Paez, state of Zulia off the northwest shore of Lake Maracaibo and a torsion balance party is engaged by the same company in the Maracaibo Basin area.

Mene Grande Oil Co., formerly Venezuela Gulf, is resuming drilling on its No. 1 Santa Ana in the district of Aragua, state of Anzoategui. Since the latter part of 1936, No. 1 Santa Ana has been inactive at 6,207 feet where it was tested for dry gas production ranging up to 10,000,000 feet per day. Operators have recovered liner and will start making new hole immediately. The company is conducting geological work around Chaparro, district of Aragua, state of Anzoategui, and also in the district of Zaraza, state of Guarico. Mene Grande is engaging a seismographic party west of its No. 1 Santa Rosa in the district of Freites, state of Anzoategui and a magnetometer crew is working southeast of Santa Maria de Ipire in Guarico.

Venezuela Petroleum Co., which is rumored preparing to drill a wildcat test on Caracas Petroleum Corp.'s acreage, probably in Guarico or Portuguesa, is doing torsion balance work in the district of Sosa, state of Zamora.

East of Standard of Venezuela's Temblador development in southern Monagas, the company is drilling at shallow depth on its No. 1 Yabo. Another location on Standard of Venezuela acreage, west of the El Salto tests drilled on Pantepec acreage, is to be started soon. It is to be known as No. 1 Yopales, near the line dividing states of Monagas and Anzoategui.

There is no assurance yet just what the far-flung exploration program will eventually mean to Venezuela production, but with each succeeding test more and more geological information is available to technicians for guidance in definite location of structure. There is little doubt in the minds of observers that results so far are more important than can now be definitely confirmed.

However, activity in the proven productive portions of Venezuela probably will boost production in 1937 to 170,000,000 or 175,000,000 bbls., compared to output of 153,314,971 bbls. in 1936. If the lower estimate is confirmed by results at end of the year, it will mean a production increase of 16,685,000 bbls., or about 11 per cent.

Behind the current activity in proven and wildcat districts of Venezuela is the firm stand taken by President Lopez Contrares' administration against radicalism. Action of the government in terminating the December labor strike in the Lake Maracaibo district after union leaders had failed to accept reasonable terms of settlement encouraged interested companies to remove restraint from their operations. Consequently, the revival of drilling programs temporarily set aside to determine attitude and strength of the new Contrares administration has moved Venezuela to the head of active foreign petroleum producing countries.

Mexican Production

March crude oil production in Mexico is estimated by the Ministry of National Economy at 4,307,945 bbls., a substantial increase over 3,542,306 bbls., produced in the same month in 1936. Despite the gain, the daily average of 138,966 bbls., was down slightly from 140,104 bbls. in February.

Auto ferry in Iraq

Kowait Suspends Drilling

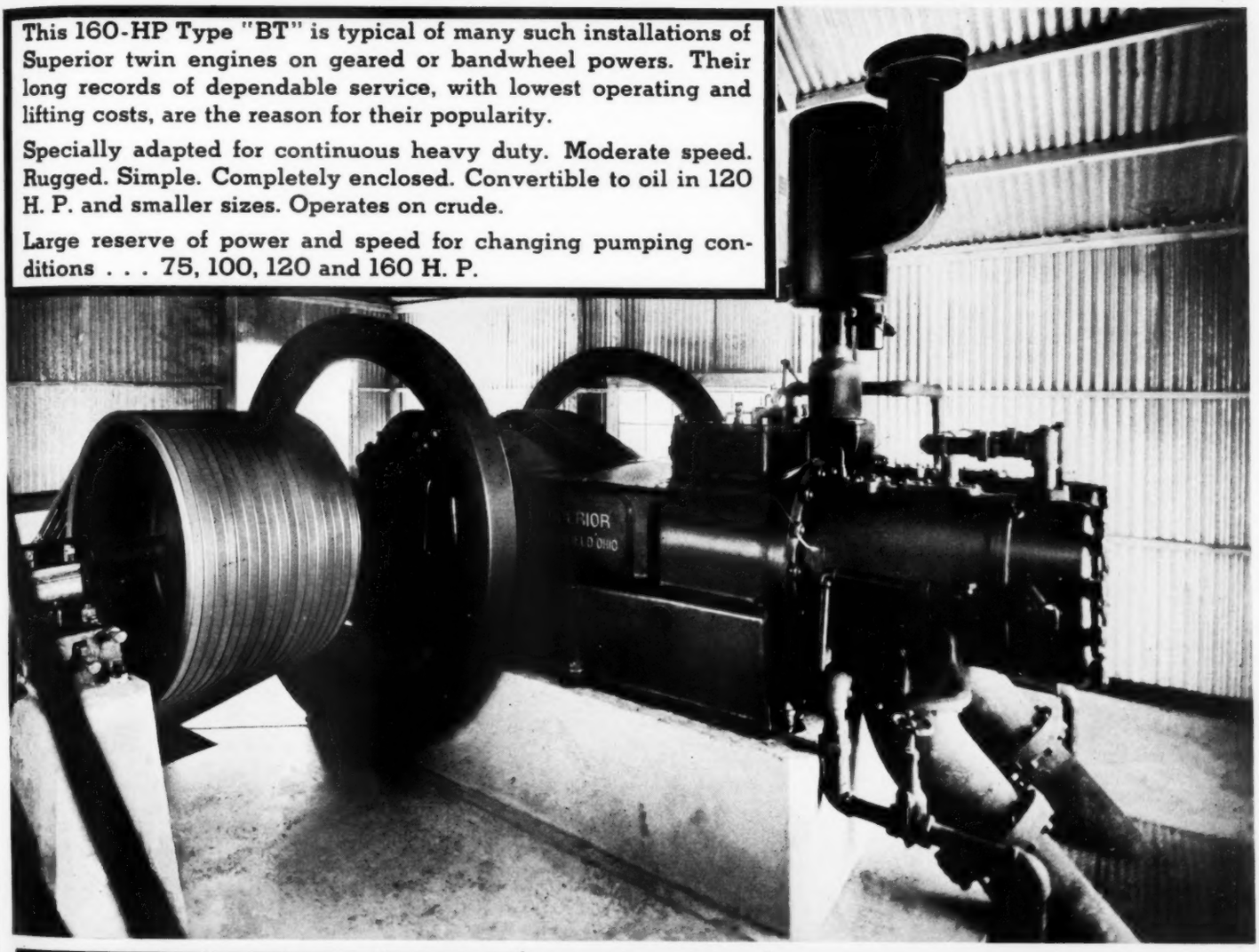
Drilling has been suspended on Kowait Oil Co. No. 1 Bahrah, far eastern wildcat test, inland from the northwestern shoreline of the Persian Gulf, at 7,950 feet. Operators encountered no showings of commercial importance. Additional geophysical work probably will be done by the company before selecting another location. Kowait Oil Co., owned jointly by Gulf Oil Corp. and Anglo-Iranian Oil Co., holds concessions on the country of Kowait.

Superior Type BT
TWIN HORIZONTAL 2-CYCLE GAS ENGINE

This 160-HP Type "BT" is typical of many such installations of Superior twin engines on geared or bandwheel powers. Their long records of dependable service, with lowest operating and lifting costs, are the reason for their popularity.

Specially adapted for continuous heavy duty. Moderate speed. Rugged. Simple. Completely enclosed. Convertible to oil in 120 H. P. and smaller sizes. Operates on crude.

Large reserve of power and speed for changing pumping conditions . . . 75, 100, 120 and 160 H. P.



National

NSCO
REG. U. S. PAT. OFF.

THE NATIONAL SUPPLY COMPANY OF DELAWARE

DIVISION OFFICES: PITTSBURGH, PA., FORT WORTH, TEXAS, TULSA, OKLA., TORRANCE, CALIF. · MAIN OFFICE: TOLEDO, OHIO

Natural Gas News

Southwestern Gas Short Course

The three-day session of the Southwestern Gas Measurement Short Course held in Norman, Okla., April 20, 21 and 22, was one of the most successful ever held with 576 registrations representing 26 states and one foreign country.

Gilbert Estill, Oklahoma Natural Gas Co., Tulsa, was elected general chairman for the 1938 course after having served as program chairman for the 1937 school.

As a token of appreciation for services rendered a rosewood gavel fitted into a walnut box

—Alvin Krupnick

GILBERT ESTILL

with maple inlaid top was presented to each of the past chairmen of the general committee. Attached to the gavel is a sterling silver plate bearing the name of the recipient and the year in which he served as chairman.

Seven cash awards were made for reports on "What I Learned at the 1937 Meter School" ranging from $15 first prize to five $5 prizes.

Approve California Merger

Approval of the merger of the Los Angeles Gas & Electric Corp. and the Southern California Gas Co., was announced by the California Railroad Commission. They will operate under the name of the Southern California Gas Co.

Holders of $100 shares of preferred stock in the Los Angeles Gas & Electric Corp. will receive four shares of $25 series A-6 per cent preferred of the new Southern California Gas Co.'s stock. Common stock of the Los Angeles company will be exchanged at the rate of one $100 share for four $25 shares of the Southern California concern.

The merger resulted from the sale of the electric properties of the Los Angeles Gas & Electric Corp. to the city of Los Angeles last January. The purchase price was announced as $46,340,000.

Federal Gas Regulation

WASHINGTON, D. C.—The house interstate commerce committee has approved legislation to place natural gas lines operating in interstate commerce under authority of the Federal Power Commission to regulate rates.

Natural Gasoline

Cotton Valley Plant

SHREVEPORT, La.—United Gas Public Service Co. has begun enlargement of its gasoline plant in the Cotton Valley field of Webster Parish, La. Formerly this plant handled a peak load of 50,000,000 feet from the shallow sand oil wells in that field, but the volume from this source has now declined to about 5,000,000 feet. Deep and prolific gas and distillate production has been discovered in this field recently, and the present enlargement is to care for the high-pressure gas developed from deeper levels. After completion, the new Cotton Valley plant will have both a high-pressure unit for the deep production, and a low-pressure unit for the shallow casinghead gas, both of the absorption type. Total daily capacity will be 25,000,000 feet upon completion.

Lodi Plant

SHREVEPORT, La.—Work on the proposed absorption-polymerization gasoline plant to be constructed by Phillips Petroleum Co. at Lodi, on the Texas side of the Rodessa field, has been shut down for an indefinite period. Some gathering and residue lines had been laid.

Zehrung Elected President of the Pennzoil Company

OIL CITY, Pa., Apr. 24.—W. S. Zehrung has been elected president of the Pennzoil Co. by the board of directors, succeeding Robert S. King, who resigned effective April 1. Mr. Zehrung had been vice president in charge of sales. At the same time, Maurice A. Brewster, treasurer, was elected vice president and treasurer and J. F. Vandeventer was elected assistant secretary.

Officers who were reelected are Charles L. Suhr, chairman of the board; R. A. Browne, secretary, and W. J. Dempsey, assistant treasurer.

Mr. Zehrung, a native of Montepelier, Ind., has been with the Pennzoil Co. 18 years. He is a graduate of Allegheny College, Meadville, Pa., and was with the Army Air Corps before coming to Oil City in 1919. Mr. Zehrung was successively chemist, chief chemist, assistant refinery superintendent, manager of industrial sales, sales manager, general manager and vice president in charge of sales. He was elected a member of the board at the recent annual meeting. He is a member of the American Chemical Society and the American Society for Testing Materials.

Mr. Brewster's association with the company began in 1909. He has been treasurer and a member of the board of directors for a number of years.

Opposition to Connally Bill

WASHINGTON, D. C., Apr. 27.—At a hearing on the Connally act extension, Representative C. A. Wolverton, New Jersey, suggested the act might give states complete control of prices. "Would it not be wise," he asked Secretary Ickes, "to incorporate some provision whereby federal government could protect the consumer from any undue price rise?" Mr. Ickes replied the time might come when that would be necessary, but it has not yet arrived. Several members of the subcommittee from the consuming states expressed doubts as to the wisdom of making the act permanent.

Anticipating jobber protests, Mr. Ickes said he did not think jobbers' troubles in getting favorable prices were caused by the act. Harvey Fremming, president of the Oil Field, Gas Well and Refinery Workers, asked that a 36-hour week for workers be included in the bill. Representative L. Boren, Oklahoma, introduced an amendment to include a 40-hour week and a $5 minimum wage for six-hour day.

A.I.M.E. Meeting

The Mid-Continent section of the A.I.M.E. petroleum division will act as hosts to President R. C. Allen and Secretary A. B. Parsons of the national society on Monday, May 3, at a dinner-meeting to be held in the Tulsa Building, Tulsa. This will also be the annual meeting of this section and the new officers will be announced.

The regular speaker for the evening will be Don R. Knowlton, chief production engineer, Phillips Petroleum Co., Bartlesville, Okla., who has chosen for his subject well spacing and particularly unnecessary wells and well density.

Permian Basin Chapter

MIDLAND, Tex.—The first quarterly meeting of the Permian Basin chapter of the American Petroleum Institute Division of Production was held here April 23. Approximately 175 were present.

The afternoon session was devoted to technical papers and discussion, including a paper on "Hydrocarbon Data From Subsurface Samples," by Ralph J. Schilthuis, Humble Oil & Refining Co., Houston, Tex.; "The Application of Gas Lift in West Texas and New Mexico," by R. R. Kyner; and "Plugging Back With Cement," by Claude B. Parsons, vice president, Halliburton Oil Well Cementing Co. T. E. Swigart, executive vice president, Shell Petroleum Corp.; Houston, Tex., talked on the work of the A.P.I.

Texas Allowable Increased

AUSTIN, Tex.—Allowable production for Texas, effective May 1, has been set by the Railroad Commission at 1,411,236 bbls., an increase of 62,272 bbls. over the April 1 state allowable, and 70,436 bbls. greater than the Bureau of Mines estimate.

THE MARKETS*

CRUDE OIL: *Continued rise in production is strengthening conviction that Bureau of Mines recommendations should be adhered to as a working guide. No change in posted prices, but expectation of raise persists.*

REFINERY: *Gasoline demand broadening, although unfavorable motoring weather in some areas has slowed advance in consumption. Prices stiffening. Tractor fuels strong.*

TANK-WAGON AND SERVICE STATION: *Only minor changes reported in most areas. Service station prices in metropolitan New York increased generally.*

FINANCIAL: *New highs were recorded by some shares. New lows were made by others, and all dropped this week with the generally falling market. Average prices of 30 representative stocks for week ending April 24: High, 44.47; low, 42.01; close, 42.26. Week ending April 17: High, 44.63; low, 42.35; close, 43.57.*

**Details in Market Section.*

Pipe Line Activity

Gulf Pipe Line Valuation

WASHINGTON, D. C.—Gulf Refining Co., successor to Gulf Pipe Line Co., has filed a protest with the Interstate Commerce Commission against the tentative valuation of its pipe line recently made by the commission. The company complains the commission erroneously excluded storage facilities holding 1,100,500 bbls. of oil which reduced the amount of valuation by $500,000. It also contends the commission used a false basis for valuation when it took the reproduction cost when new, less depreciation, as a basis of value on which rates are to be computed. Since when the oil supply will be exhausted can be predicted with a fair accuracy, Gulf claims, the entire property should be classed as depreciable from the standpoint of providing reimbursement of the carrier's investment.

Another ground for protest was that the commission did not properly value the lands held by Gulf for pipe line purposes. The commission did not take into account the peculiar adaptability of the land for pipe line purposes, Gulf claims. The "going concern" element of value was also not taken into consideration; the commission failed to give recognition to the requirement of law that there is value in the assembled and established plant of the carrier, the petition argues.

In regard to working capital, Gulf's contention is the commission wrongly excluded cash from its estimate, and included merely material and supplies. Gulf claims cash, with which to carry on current operations and payrolls, is an integral and vital part of working capital and should be included in working capital.

Final contention of Gulf's petition is that carrier-purchased oil is wrongly excluded from the valuation. Carrier-owned oil in the process of transportation for delivery, the same as that of any other purchaser, should be included in the volume of common carrier business used as a basis for evaluating the amount of business done, the company contends. The carrier was a regular purchaser of oil for customer delivery, and such oil is common carrier business.

Panhandle Eastern Contracts

Contracts for the loops on the Panhandle Eastern Pipe Line have been let. T. R. Jones, Inc., Dallas, Tex., was awarded the contract for the western section—Liberal, Greensburg, Haven and Olpe loops—all 24-inch—147 miles and about 4.5 miles of multiple line river crossings of 18-inch. E. H. Reeder Construction Co., Dallas, Tex., was awarded contract for the eastern section—Louisburg, Houstonia, Centralia, Pleasant Hill loops—80 miles of 24-inch, 42 miles of 22-inch and 1 mile of multiple line river crossing, 18-inch.

Stearns-Roger Manufacturing Co., Denver, Colo., was awarded contract for construction of the Liberal, Greensburg and Haven compressor stations—10,800 B.H.P. additions. The Fluor Corp., Los Angeles and Kansas City, was awarded the Olpe, Louisburg, Houstonia, Centralia, Pleasant Hill and Glenora additions and the new station near Tuscola, Ill., 18,600 B.H.P.

Michigan Lines

McClanahan Pipe Line Co. of Mount Pleasant, Mich., is taking up a 20-mile 4-inch OD welded oil line, which it is relaying in a double, 10-mile line in a new location. This line will transport crude oil from gathering lines of new wells to a larger main line. For this work, the company is using

Lining up a joint in the pipe clamp, tack-welding, and completing a bell-hole or position weld on Cities Service Co.'s 12-inch gas line from Fitts to Seminole

✤

2,260 Dresser style 38 couplings for light-wall steel pipe. Every joint will be Dresser-coupled. Construction is now under way and is being carried forward rapidly by Sylvester Rich, Bradford pipe line contractor. The line is to be buried 18 inches deep and the pressure will vary from approximately 300 pounds to gravity.

Pure Transportation Co., a subsidiary of Pure Oil Co., is also laying some Dresser-coupled gathering lines in the vicinity of Mount Pleasant at the present time.

New Storage

CORPUS CHRISTI, Tex.—Crude Oil Terminal Co. is adding two 80,000-bbl. tanks to its terminal on the main turning basin, and Texas Pipe Line Co. will apply for permits to erect two additional 80,000-bbl. tanks, raising its total storage to 775,000 bbls.

Refinery Projects

Jack County Refinery

FORT WORTH, Tex.—The Bryson field, Jack County, is to have a refinery. A 1,000-bbl. per day skimming plant is being erected by Hoffman, Peters and Lillard on the railroad just southeast of Bryson. Texas Pipe Line Co. and Continental Oil Co. are taking oil from the field at present, but sufficient crude from the high-gravity producing field can be obtained for near capacity operation of the plant. The field is being developed by independent operators.

Dubbs Units for National

CHICAGO.—The National Refining Co. of Cleveland, Ohio, has signed license contract with Universal Oil Products Co. for use of the Dubbs cracking process in its refineries at Coffeyville, Kans., and Findlay, Ohio.

The agreement was signed by H. J. Halle, president of Universal, and W. H. Lamprecht, president of National, at Cleveland on April 21. As a result, a patent infringement suit, brought by Universal, scheduled for trial on April 26 at Wichita, Kans., has been withdrawn. National had a counter claim against Universal which has also been dismissed.

The refinery at Coffeyville has a daily capacity of about 8,000 bbls., the Findlay plant about 3,200 bbls. Universal engineers are now engaged in surveying the National plants to determine what changes should be made to improve the operations under Universal patents and methods.

Refinery Planned

TORONTO, Ontario.—Nead Oil Refineries, Ltd., of Toronto is planning construction of an oil refinery on the Grey & Bruce Cement Co. site at Owen Sound, Ontario.

Naph-Sol Plant Remains Closed

MUSKEGON, Mich.—The Naph-Sol Refining Co.'s plant in Muskegon, Mich., remained shut down last week though there were greater hopes of settlement in a dispute between about 50 former employes and the company management. The question at issue, since the acquittal of five workers and the dismissal of charges against four others of hurling missles at company officials cars, is whether the plant was closed March 31 for business reasons or because of the workers' attempt to bargain for higher wages, adjusted hours and working conditions.

The men charge they were "locked out" in a petition filed with the Labor Relations Board, alleging violation of the Wagner Labor Relations act. The men, members of Local 390, Gas Well and Oil Field Workers, a C.I.O. union, sought an agreement in a conference March 30, and several previous negotiations. Picketing of the plant at the outskirts of North Muskegon has been continued.

Michigan Construction

MUSKEGON, Mich.—Pentagon Refinery Co., of Detroit, has advertised for bids on a 1,200-bbl. cracking unit, similar in design to 1,200 to 1,500-bbl. units in operation or nearing completion at several other Michigan independent refineries.

Robert E. Guy, son of E. G. Guy, builder and operator of small refining plants in Michigan, will establish a 1,000-bbl. skimming plan at Rosebush, north of Mount Pleasant, Mich. The plant will operate on crude from the new Buckeye Township, Gladwin County, field of central Michigan, it was announced.

Plan Moving Crystal Plant

MUSKEGON, Mich.—Crystal Refining Co. of Carson City, Mich., headed by Del Fortney, independent oil and refinery operator in central Michigan for several years, is reported considering removal of its 2,000-bbl. skimming plant from Carson City, south of the Crystal-Montcalm oil field, to Bay City, Mich.

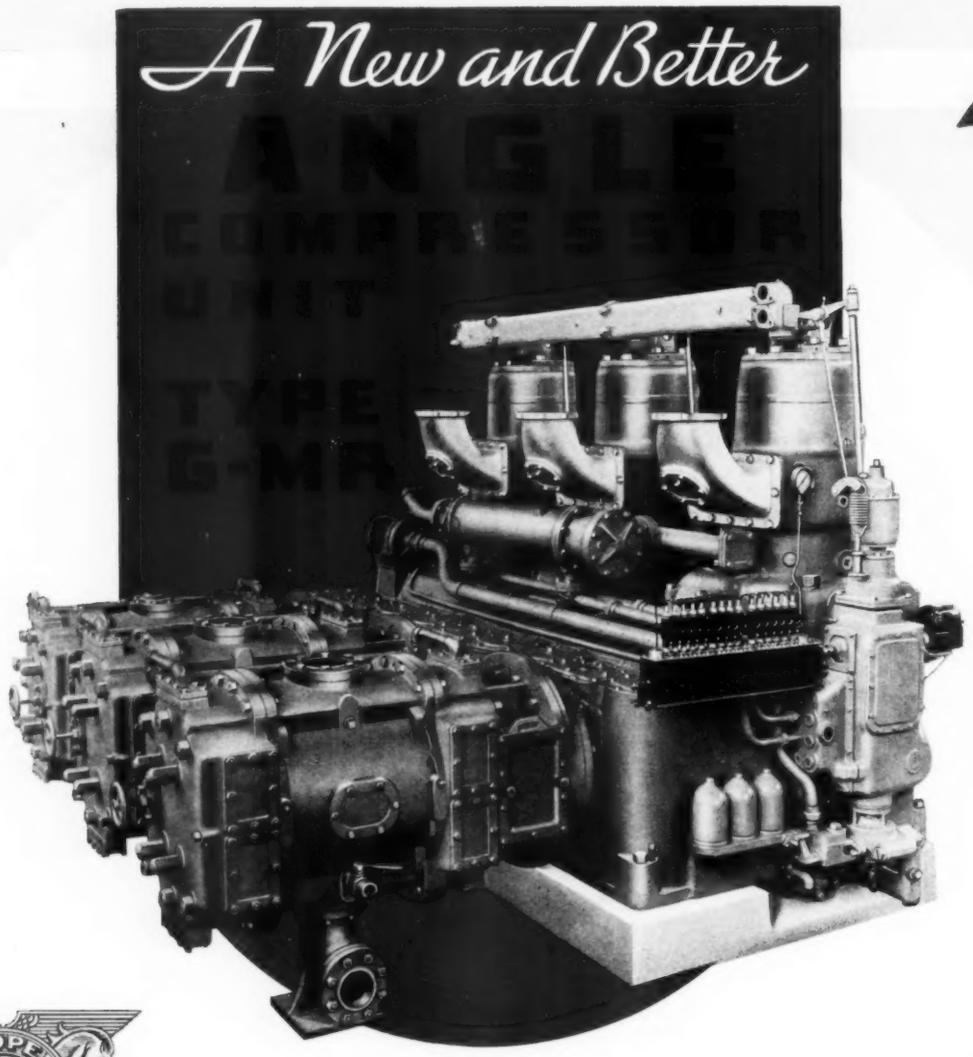
Mr. Fortney originally purchased a site for a refinery in Bay City and planned to build there before the Crystal refinery was erected two years ago to be closer to Crystal field. Since the decline in Crystal, company officials have been considering a new location. They have contracted for sufficient Buckeye Township, Gladwin County, crude to operate the plant. The site is on waterfront where dockage could be built.

Texas Renews Compact

AUSTIN, Tex., Apr. 26.—Governor Allred Monday approved a law extending Texas participation for two years in the interstate oil compact.

Announcing

A New and Better



Type G-MR is a new type and size in the Cooper-Bessemer line of compressor units. Rated from 150 to 300 H. P., this *two-cycle* unit is built in two, three, and four cylinders—rating 75 H. P. per cylinder. Call our representative for details.

Features:

- ★ *Modern* — compact; more horsepower in less space.
- ★ *Convenient* — to transport, install, operate, and maintain.
- ★ *Reliable* — rugged; two-cycle; Cooper-Bessemer engineered.
- ★ *Economical* — "streamline" scavenged; more power with less fuel. New type power piston permits higher horsepower ratings.
- ★ *Lubricated* — by positive pressure to every single bearing.
- ★ *Cooled* — oil-cooled pistons; ample water-jacket space.

THE COOPER-BESSEMER CORPORATION

Mt. Vernon, Ohio — PLANTS — Grove City, Pennsylvania

THE COOPER-BESSEMER CORPORATION

MACHINERY BUILDERS — SINCE THE YEAR 1833

ENGINES AND COMPRESSORS

MT. VERNON, OHIO

April 29, 1937

Users of Gas and Air Compressors,
In Every Field.

Gentlemen:

You have no doubt been impressed by the initial savings that a compact, self-contained compressor unit of this style can offer - savings in hauling, foundations, installation, space, and housing.

But perhaps, like hundreds of others, you have been reluctant to sacrifice the low operating and maintenance costs, and the long life, for which our horizontal compressor units have always been famed.

Fortunately, with Type G-MR, we are able to give you more power in less space - and, at the same time, the continuing economies, reliability, and long life that mean so much to you.

The G-MR design has been thoroughly tested, and the performance has been even better than we expected.

When you talk to our representative about these new units, ask him in particular about the "streamline" scavenging. This, in itself, is a noteworthy advance in two-cycle efficiency.

Yours very truly,

THE COOPER-BESSEMER CORPORATION

J. J. Hudgins

Vice-President, and General Manager of Sales

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

Limits to the Law

An oil employe who has refused the request of the C.I.O. that he join the union wants to know where he stands if he continues in that position. He has been told that if he refuses to join and his company makes a contract with an outside union he will probably lose his job.

This question comes on top of action by a major Texas operator which has announced discontinuance of the joint employer and employe conference arrangement affecting its 3,300 refinery employes that had been in effect almost from the start of the company with the entire satisfaction of both management and employes.

The company explains there is a question whether or not that arrangement is legal under the Wagner act, and, due to that doubt, it has been discontinued despite the fact that the great majority of the employes in this refinery have, within recent weeks, expressed by vote their preference to continue dealing through conference.

This action emphasizes the position of the employe who is satisfied with his present arrangements with his employer and does not desire to substitute outside representatives in future relations. Naturally, he wonders if he is going to hold the sack.

Oil companies, of all industries, have leaned backward in endeavoring to carry out the letter and the spirit of the Wagner act. The question arises whether there is not a possibility of going farther than the originators of the law or congress ever intended.

Obviously, if any kind of voluntary organization on the part of employes is forbidden, there is nothing for an employe to do but to join the union although the union officials may not be employed in his industry. But there is nothing in the act that goes that far. This ultimately would mean the closed shop, the check-off and any other provisions desired by union organizers.

The Supreme Court decision, on the contrary, said "the statute goes no further than to safeguard the right of employes to select representatives of their own choosing without restraint by their employer." Representatives chosen by employes from among their own number to negotiate conditions of labor with their employers would be entirely legal. An employer and an employe can make individual contracts and be perfectly within the law.

The right of labor to organize and its right to bargain collectively are established but there is nothing in the act or in the decision compelling an employe to join a union.

Oil companies have the right, and it is their duty, to make clear to their employes that they do not have to join an outside union but can form their own organization and deal with their employers directly, or individually, as they have been in the habit of doing.

Employers are legally bound to recognize the right of employes who prefer to deal with them through the agency of outside labor leaders but at the same time their duty is just as plain to protect loyal employes who are satisfied with the arrangements under which they have worked for years and who do not wish to join a union.

With the right to collective bargaining recognized no elaborate or expensive outside organization is necessary to negotiate terms of labor. Oil employes, accustomed to conducting their own negotiations, naturally take that view, which accounts for the failure of the C.I.O. to make headway in the oil industry.

When "Dick" Richards comes in High Power Costs Go Out

SEND FOR A COPY OF OUR BULLETIN "ATLAS IMPERIAL DIESELS FOR ALL OIL FIELD SERVICE"

ATLAS IMPERIAL DIESEL ENGINE CO.

OAKLAND, CALIFORNIA · · MATTOON, ILLINOIS

Oil Country Distributors

K. S. RICHARDS · WICHITA · OKLAHOMA CITY · FORT WORTH · HOUSTON

ATLAS IMPERIAL

Deeper Drilling in N Presents Unique P

Type drilling rig used in the Cotton Valley field of North Louisiana for drilling to 8,500-foot levels

Development of the 8,100- and 8,500-foot production in the Cotton Valley field of Webster Parish, North Louisiana, has presented many unique and difficult drilling problems. Wildcat drilling to almost 10,000 feet at other points throughout North Louisiana has encountered like difficulties. The experience being gained here is particularly significant when applied to other fields of that territory, as today very few, if any, locations are considered to be amply tested until at least an 8,500-foot hole has been made. In addition, there are many attractive formations far below this depth, of lower Mesozoic and Paleozoic age, which will be tested when it becomes economically possible to do so.

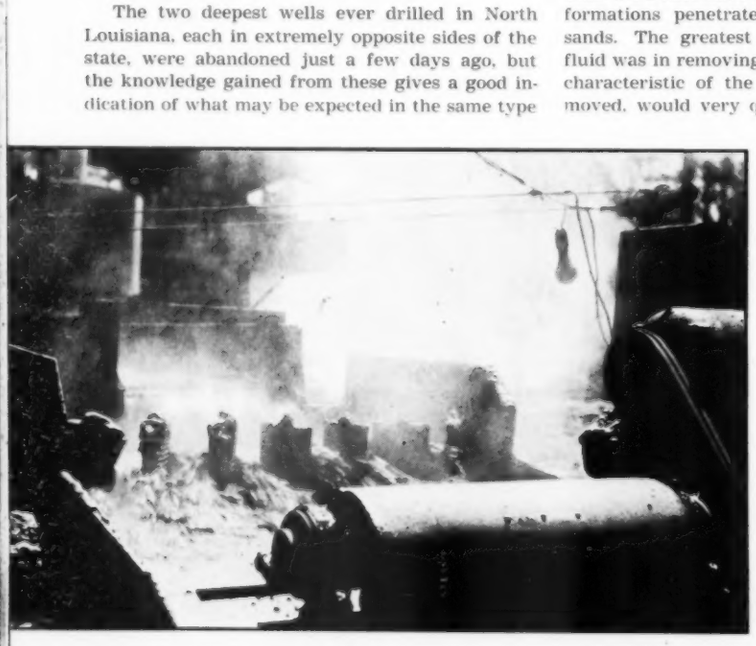
Drilling Time

While in other deep drilling areas, such as the Gulf Coast, an 8,000-foot well can be drilled in less than 30 days for a cost of about $32,000, drilling through the hard Trinity formations in North Louisiana with the same efficient drilling rigs, bits, etc., requires about 90 days, at a cost exceeding $80,000 per well. The 10,000- and 12,000-foot holes along the coast are practically a routine procedure now. This depth has never been penetrated in the North Louisiana province, but when it becomes economically possible and feasible to do so, the territory is thought to hold much promise for the development of deep reserves.

The two deepest wells ever drilled in North Louisiana, each in extremely opposite sides of the state, were abandoned just a few days ago, but the knowledge gained from these gives a good indication of what may be expected in the same type of exploration on other structures. Gulf Refining Co. No. 1 E. P. Hatcher, SW SE section 11-17-15, a few miles south of Shreveport, in the extreme western part of the state, was drilled to a total depth of 9,244 feet. Gulf Refining Co. No. 15 Rhymes, section 32-12-6e, flank test of the Richland gas field, in the extreme eastern part of the state, was abandoned at a total depth of 9,986 feet. Generally speaking, drilling conditions were quite similar in both wells, and the fact was established that wells drilled to this depth in the North Louisiana uplift, or north of the Angelina-Caldwell flexure, would encounter approximately the same conditions.

Over nine months' continual drilling was required on each of these wells and not a great amount of coring was done. Surface casing, 16-inch in size, was set at about 150 feet; 10-inch at 2,600 feet; and 7-inch OD 28-pound Grade D seamless steel was set and cemented at 8,300 feet in each well. Comparatively easy drilling was possible to the top of the Travis Peak, or more generally referred to as the red beds, at about 4,800 feet. From this point on drilling was slow and tedious. Rock bits would only make about an average of 20 feet before they required replacement. Average daily footage throughout the entire nine months was about 40 feet per day, but below the Travis Peak top a 20-foot per day average was good. Many hard streaks were encountered, in which "going" was very slow. An entire week was required to drill from 9,007 to 9,021 feet in the Richland test, or an average of 2 feet per day.

Outside of the hard digging, very little other trouble was experienced. No particular mud problems were encountered, due to the hardness of the formations penetrated, and the absence of gas sands. The greatest difficulty with the drilling fluid was in removing the sharp and hard cuttings characteristic of the red beds, which, if not removed, would very quickly cut mudpump liners, tool joints, etc. Mud screens were successful in removing these harmful particles.



Hot mud flowing through mud screen

Cotton Valley

The Cotton Valley field today is the deepest producing area in North Louisiana, and sufficient wells have now been drilled there to the 8,100- and 8,500-foot levels to provide rather detailed information on the problems encountered in this development.

Rock bits are employed here from the surface down. A 16-inch bit cuts the hole through the comparatively soft Tertiary beds, through the prolific water sands in the Wilcox formation, and 13⅜-inch casing is set about 800 feet. One rock bit will cut several holes through this section. Drilling from this point to the Travis Peak red beds, through the Upper Cretaceous and Washita, Fredericksburg, Paluxy, and Lower Glen Rose formations, is comparatively easy, requiring about 30 days time, and about 10 to 12 rock bits. The 9⅝-inch OD pipe is set at about 5,500 to 5,600 feet, at or near the top of red beds. Digging from this point down is very hard. The sands, shales and sandy shales through the Travis Peak section from 6,000 to 7,200 feet are especially hard. Often only inches are made during a 24-hour period. Records show that from 60 to 75 days drilling time is required from 5,500 to 8,100 feet, and approximately 80 rock bits are used through this section. One very hard and persistent streak about 6 feet thick in the Travis Peak requires about nine rock bits.

Pile of sharp sand particles knocked out of drilling fluid by mud screens. Several such piles of cuttings are seen at all rigs as drilling approaches the 8,100-foot level

Obviously, such drilling is very expensive. Drilling contracts to date have been upon a basis of about $6.00 per foot to 6,000 feet, and from that point on day-work rate is paid. Some consideration is now being given to letting contracts on a footage basis to total depth. Some producers in the field operate their own drilling rigs. The average cost of an 8,100-foot hole is from $80,000 to $90,000.

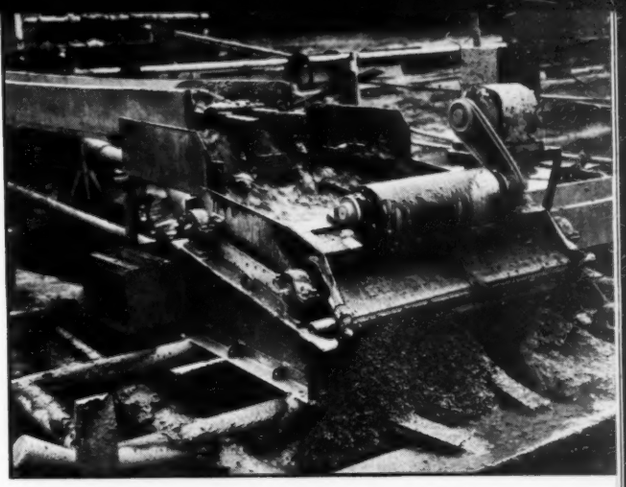
Mud Problems

The mud problem at Cotton Valley is two fold: First, a uniform mud free from anhydrite or cement cuttings is highly desirable to this depth and through the several intermediate gas sands before reaching 8,100 feet. Second, it is absolutely necessary that the sharp sandy particles found in the red beds be removed by mud screens or shakers in order to prevent cutting out of all metal parts, such as pump liners, tool joints, mud-hose connections, etc.

Hardness of the formations penetrated minimizes troubles from caving, although three intermediate gas sands are encountered from the 9⅝-inch casing-seat to total depth. Very careful watch on the adequate weight of mud, with proper and

North Louisiana Problems

By MITCHELL TUCKER



Mud screen for removing the sharp drill cuttings from the drilling fluid

uniform consistency of fluid, has successfully prevented any trouble from this source. As has always been pointed out in connection with handling drilling fluid, blowouts, etc., a thoroughly trained personnel is a first essential. In combating such problems at Cotton Valley operators recognize this fact, and as a result, very close and efficient supervision is given to the drilling of these difficult wells. The Ohio Oil Co. is the leading producer in the field, and it has placed a thoroughly competent geologist in charge of mud problems there, in addition to his other duties. As a result, the problem with drilling fluid has resolved itself into a matter of educating the crews on proper mud maintenance, and closely checking and studying each well in order to maintain a uniform condition throughout the entire hole.

Weight of Drilling Fluid

Mud weight is kept uniformly at about 9½ to 10 pounds per gallon, with a viscosity of from 20 to 21.5. Below 7,600 feet a slightly heavier mud is required, and if the well has the 8,500-foot sand as its objective, considerable weight material is added in preparation for the 8,100-foot gas sand. The bottom-hole temperature of about 190 degrees, and the danger of gas cutting, seriously affects the mud consistency, and to meet this condition the drilling fluid is checked on all wells at the beginning of each tower, and at all critical points.

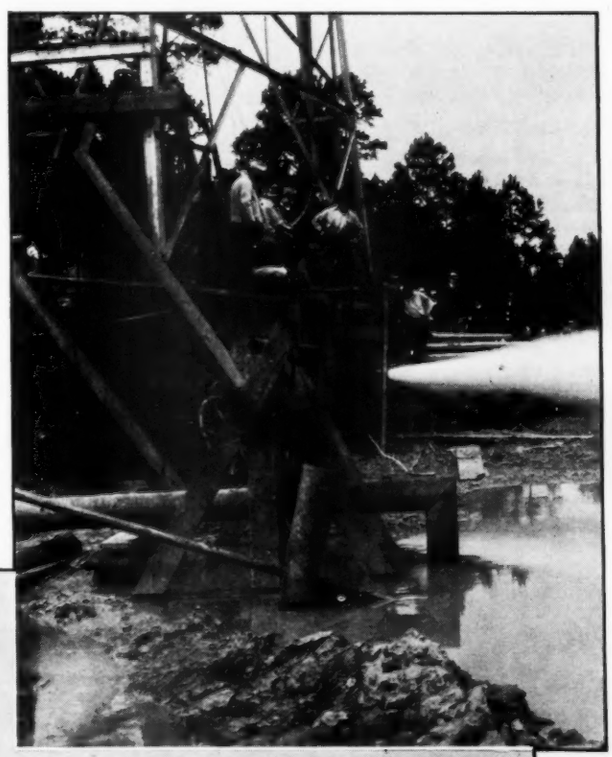
The sharp sands through the red beds are very abrasive, and detrimental to all metal with which the fluid comes in contact. Therefore, arrangement is made at all rigs for the separation of the greater portion of this harmful material. Mud screens are employed at Cotton Valley, and it is not uncommon to see several large piles of these sharp sand particles shoveled out near the mud screen.

Shale beds occurring from 2,200 to 5,500 feet provide a very good native mud, and if properly saved can be used through most of the hole, or at least until gas cutting demands more weight material in the fluid. Some operators dig two reserve pits 100 by 100 feet square to save this native shale. All are careful not to let any of the cuttings returned while drilling through the anhydrite to get into the working pits. The same is true when drilling out cement plugs. Usually a separate pit or disposal point is arranged for depositing this mud when rigging up. Water sands, from 6,900 to 7,600 feet, often consume from three to five full pits of mud, so as much reserve mud is kept as possible in anticipation of these beds. Steam mud-guns, of course, are used to circulate and keep the mud alive. Jetting tools are used to liberate gas that may be in solution in gas-cut drilling fluids.

At about 7,600 feet the bit leaves the continental or fresh water deposits of Travis Peak age, and enters a thick section of marine beds. All deep production at Cotton Valley is from sand members of this marine section. From this point on down the drilling fluid is watched very closely, and weight material added when needed.

Type Drilling Rigs

The conventional type Rodessa drilling-rigs were first used at Cotton Valley, generally employing the 7½-inch drawworks, the 12 by 12 drilling engine, and 18-inch slush-pump assembly. Later, the heaviest and most modern type became standard at Cotton Valley, embodying the 9-inch jackshaft and drawworks, the 14 by 14 steam drilling engine, 20-inch slush pumps, and three 125-horsepower rotary boilers.



Right, gas-distillate well testing at Cotton Valley. Below, preparing to run 7-inch drill-pipe into the hole

Eastern Oil Men to Meet

Plans for the program for the annual meeting of the eastern district of the American Petroleum Institute, division of production, to be held in Columbus, Ohio, May 6 and 7, at the Deshler-Wallick Hotel, have been completed. Four sessions will be held.

On Thursday morning, May 6, Dr. George W. Rightmire, president, Ohio State University, will deliver the address of welcome. A high light of the meeting will be an address entitled, "The Tax Situation in Our Industry," by Axtell J. Byles, president of the A.P.I.

An interesting technical program is in the course of preparation, with the following papers already assured:

"Future Possibilities of Michigan Oil and Gas Production," by Dr. Virgil Kirkam, Saginaw, Mich.

"The Use of Prepared Mud and Oil Well Cementing in Eastern United States," by C. P. Parsons, Halliburton Cementing Co.

"Recovery and Repressuring in Deep and Shallow Sands in the Eastern Area," by Wilbur Stout, state geologist, Columbus, Ohio.

"Prospect of Deep Production in the Illinois Basin," by Theron Wasson, Pure Oil Co.

"Use of Geophysical Methods in Oriskany Production," by L. E. Randall, Charleston, W. Va.

"Rotary Drilling in the East," by Frank M. Brewster, president of Belmont Drilling Corp., Bradford, Pa.

"The Oil Industry in Kentucky," by Paul Blaisler, Ashland Refining Co.

The meeting will be in charge of the following committees acting under J. C. Askam, chairman, for the eastern district:

Program: George Wittmer III, chairman, Wittmer Oil Co.; J. J. Schmidt, East Ohio Gas Co.; E. E. Eckert, Hanley & Bird. Arrangements: D. T. Ring, Ohio Fuel Gas Co. Publicity: H. J. Lowe, Pure Oil Co. Registration: Christy Payne, Jr., Peoples Natural Gas Co.

One place where most Oilmen agree:

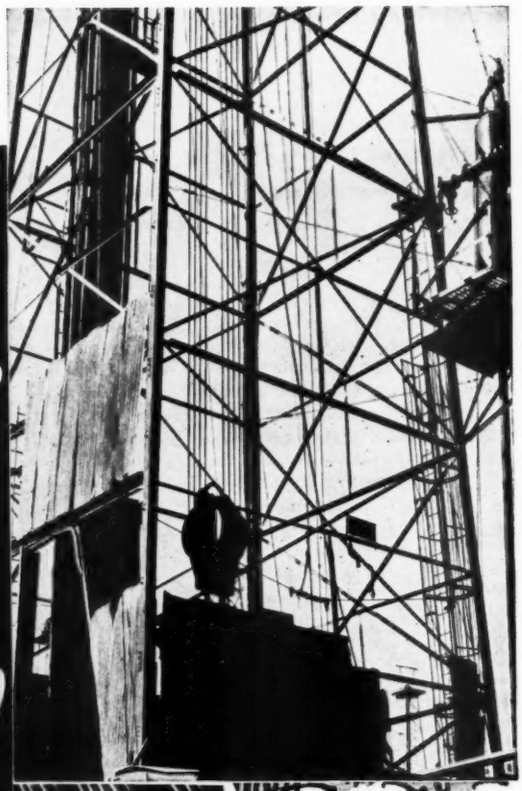
WILLIAMSPORT

PURPLE STRAND

"Form-Set"

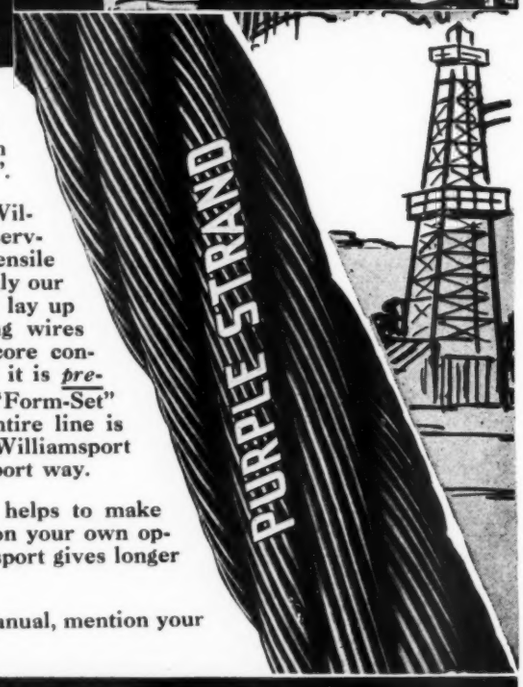
gives

longer service!



Drillers from different fields often have different ideas on what handles a job best. But they generally agree on one line for service in rotary drilling . . . Purple Strand "Form-Set".

And there's every reason why this ace Williamsport line gives longer, more reliable service. It is made with wires of highest tensile strength, drawn to precise uniformity as only our Carboloy dies can draw them; wires that lay up tighter and seat more firmly. Cushioning wires against shock, our exclusive Uni-Zact core contributes to longer service. And because it is *pre*formed free from internal tension, "Form-Set" works better and wears longer. The entire line is built in Williamsport factories, with Williamsport accuracy, and *pre*formed the Williamsport way.



See how Purple Strand "Form-Set" helps to make service records . . . watch this line on your own operations. And remember: Williamsport gives longer service!

In sending for your Wire Line Manual, mention your equipment.

WILLIAMSPORT WIRE ROPE CO.

WILLIAMSPORT, PA. » » » « « « 122 S. MICHIGAN AVE., CHICAGO, ILL.

OTHER OFFICES IN ALL PRINCIPAL CITIES

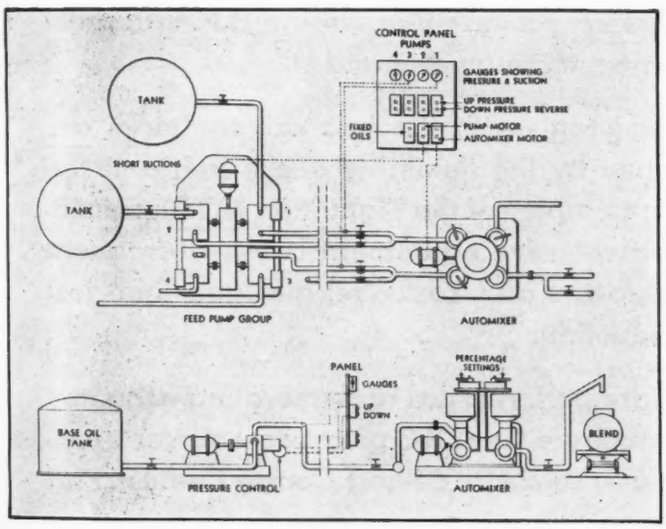
Oil Country Sales Offices: Williamsport Bldg., Fourth and Mid-land Valley Tracks, Tulsa, Okla.; 10 North Milby Street, Houston, Texas. Mid-Continent Supply Co., Distributors in Texas, Louisiana and Arkansas. General Machine & Tool Company, Distributors in Kansas. American Pipe and Supply Company, Distributors in the Rocky Mountain Territory.

Variety of Finished Oils Blended in Sun Gulf Coast Plant

By GEORGE WEBER

A modern lubricating oil blending plant recently installed on the Gulf Coast of Texas by the Sun Oil Co. is operating with satisfactory efficiency as an intermediate point through which that company can supply specification orders of western consumers. Comprising a large capacity Automixer, together with the latest designs of pumping and control equipment, the plant handles job lot orders of any size and of widely varying specifications.

The plant is situated at the company's crude shipping terminal at Smiths Bluff, Texas. Lubricating oil stocks are shipped by Sun tankers from the Marcus Hook, Pa., refinery, and the finished oils are then reshipped over a large area.



Scheme of the particular system used in the Smiths Bluff terminal

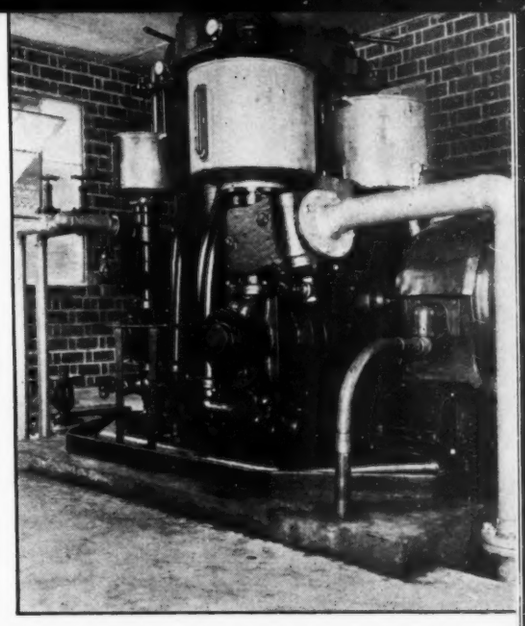
Mixing Capacity

The mixing unit installed in the model blending plant is the large improved American type, capable of blending 140 bbls. per hour of finished oils. Although facilities are available for the blending of four component oils, the machine is set up for operation on three different stocks, the maximum number required for the blending work undertaken at that plant. In general the unit comprises individual metering pumps, proportionators and bypass bowls for each of the different raw stocks to be blended, and a mixing chamber operating on the ball race principle. Simplicity of design, coupled with a number of automatic safety devices facilitates considerable accuracy and uninterrupted smooth operation.

The stocks to be blended are supplied to the unit at constant pressures. They pass first through metering pumps which, operating from a common shaft, move equal amounts of each oil to the individual proportionators. Each metering pump has a capacity equal to the full capacity of the entire unit. The proportionators consist of circular weirs with adjustable dividers which allow for settings of from 0 to 100 per cent in two of the lines, and 0 to 20 per cent in the third. The desired proportions of each stock are admitted to the mixing chamber, and the remaining fractions are diverted to bypass bowls. The bypass bowl in each component of the unit is situated directly above the intake of that particular lubricating oil stock. Mounted on a vertically moveable piston controlled by an adjustable spring, the bowl assembly actuates a shutoff of the intake line by the weight of the bypassed fluid, when filled to a certain level. In this manner, a constant head is maintained in the bypass chamber irrespective of the proportionator setting on each line.

In the use of the unit at the Sun plant, the fourth bypass bowl, instead of being used as another intake unit, is operated in the same manner on the outlet line, to hold a constant head on the mixing chamber. In this way the level of the blending stocks is held at a point above the ball race, thus aiding better mixture of the oils.

A number of innovations in control of the Automixer unit at Smiths Bluff guarantee smooth and accurate operation of the unit. A constant feed of each blending stock is assured by automatic cut-off of the entire unit in case flow of one stock cuts out. When the level of oil in any one bowl drops to a low point, the lightened load causes the bowl to rise, tripping a switch and stopping the unit instantly.



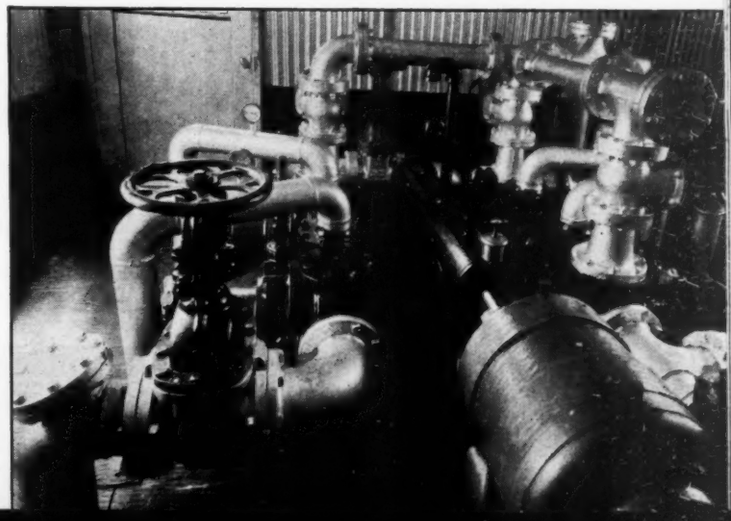
The mixing unit, showing the two main lube stock inlet lines. The bypass bowls for each component are located directly above the inlet. The large motor drives the metering pumps and ball race in the mixing chamber

Protection on the outlet of the unit is afforded by automatic shutdown when back pressure builds up to a dangerous point. This last innovation also aids the operators in handling the finished oil. It enables the shutdown of the unit to be effected from the tankcar merely by closing the discharge line. An accurate record of the volume of finished oil is indicated by a counter which is geared to the metering-pump shaft. A setting of any desired volume of finished oil can be made on this instrument, and the Automixer will shut down when that amount has entered the machine.

These devices combine to make the blending process accurate, continuous and practically foolproof. Only occasional attention is necessary while it is in operation, and the control of the stock proportions and thoroughness of mixing is such that over long runs, the viscosity of the finished oil shows negligible variation.

Improved Pumping Unit

The pumping unit which supplies the mixer with blending stocks embodies several unique features. The design is such that the pump setup can be placed at any intermediate point between stock tanks and blending house. At Smiths Bluff, the pumps are housed together adjacent to the main building. Four units of the improved Tri-Rotor type are assembled on a common drive-shaft. These pumps are so designed that they hold a constant predetermined pressure on the outlet line irrespec-



The assembly for four constant-pressure, variable-volume pumps which feed the mixer, the pumps operating from a common shaft

HERE'S THE A B C

OF MAXIMUM OPERATING ECONOMY AND EFFICIENCY IN POWER TRANSMISSION

MINIMUM FIRST AND LAST COST!

HAPPY MULTI-FLEX CORD
HAPPY STRAIGHT EDGE
HAPPY PLI-CORD
HAPPY INNERSTITCHED

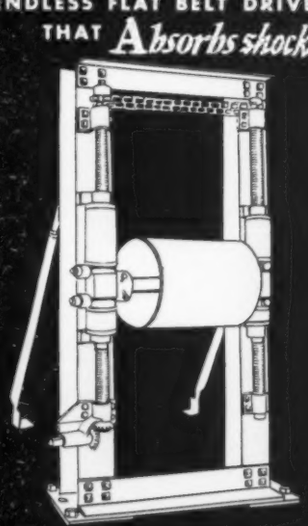
All four made by the Continuous Vulcanization Process—uniform thickness, every inch vulcanized perfectly.

Compare the installation first cost—short centers permitting shorter belt halls, less foundation, providing room for sand reel, permitting servicing of well, drilling in or to drill deeper—first installation providing adequate H.P. to handle ultimate maximum demands.

Low upkeep—with the belt drive, shocks are absorbed by the flexibility of the belt and the rubber bumpers of the Tightener, NOT transmitted to expensive equipment cause of frequent break-downs and costly repairs and time lost in production.

Compare performance and operating economy and you have the A B C of low cost power transmission—the HAPPY Short Center Endless Flat Belt Drive.

THE SHORT CENTER ENDLESS FLAT BELT DRIVE THAT *Absorbs shocks!*



SEVENTEEN YEARS OF SERVICE

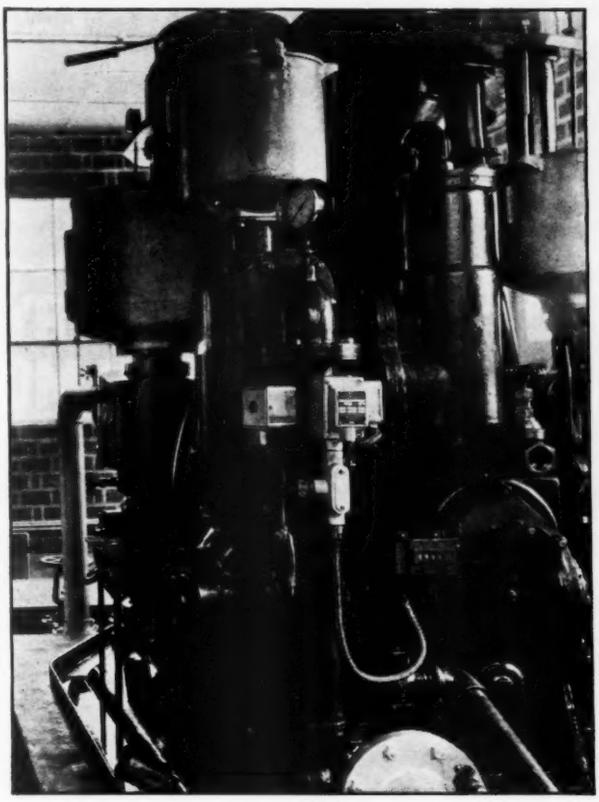
Happy

BELTING COMPANY

1111 EAST TENTH STREET TULSA, OKLA.

tive of the volume of oil moved. Manufactured by the Sun Shipbuilding & Drydock Co., they perform very effectively in the capacity required of them.

The rotor of the pump is mounted on balls and bearings. The rotor is concentric with the drive shaft and contains a reciprocating piston in which operates a shuttle block moving at right angles to the piston stroke. Through a hole in the shuttle which operates as a bearing, an offset pin is mounted in the housing of the pump. Its position with respect to the center of the rotor determines length of the piston stroke and the volume of fluid moved by the pump at each revolution. The shuttle position within the piston of the rotor is fixed by an adjustable spring on the shuttle pin. The free end of the spring can be adjusted to hold a constant pressure on the outlet of the pump. When the discharge of the pump is cut off completely, the shuttle moves to a position concentric with the rotor, thereby preventing the reciprocation of the piston and movement of fluid, but maintaining the pressure determined by the spring setting. When the outlet valve is cracked, the resulting pressure drop is equalized by movement of the shuttle to an offset position with respect to the rotor shaft, giving the piston a reciprocating movement as the rotor revolves, and moving the fluid at the same constant pressure. Therefore, the pressure determined by the setting of the shuttle pin holds constant throughout any volume of flow from capacity to complete shutoff.



Close-up view of the mixing unit. The nearest bypass bowl and flow line is used on the discharge of the unit. Note the counter and mercoid switch cutoffs

These constant pressure, variable-flow pumps are ideally suited to operation in supplying the various amounts of blending oil to the mixer. The design of the pump assembly further adds to the efficiency of the plant. One 20-horsepower motor drives all four pumps. With the shuttles set at the center of the rotors, the effect is the same as four declutched pumps. The power of the motor is sufficient to drive all four at capacity operation. Also, a considerable margin of power is available for any one pump when it is used alone. Thus one motor suffices to drive all pumps and at the same time furnishes enough additional power at full load to move viscous stocks through a frozen line in any one of the pumps singly.

Each pump has a capacity equal to that of the entire mixing unit; 100 g.p.m., and is capable of operating at a pressure range of from 5 to 150 pounds. In supplying mixing unit, pressures of 20 pounds are most frequently used. An additional feature designed into the pumps further adds to their value in the blending plant. The free end of the spring on each unit can be set to move the shuttle past the neutral position in the rotor, to a point where the pump will reverse the flow while revolving in the same direction. In this manner, the spring acts at tension instead of compression, and the stocks can be moved back to the tanks completely clearing all lines, thus eliminating any chance of contamination.

Centralized Control

The entire blending plant including pumps, mixing unit and auxiliary equipment is controlled from a single board located in the blending room. With all lines to the mixer unit closed, the operator can, from that point, start the pumps, and by means of remote control of the small motors actuating the individual pump settings, adjust the required pressures before admitting any stock to the unit. When all pumping conditions are satisfactorily adjusted, the lines can be opened and the stocks admitted to the mixer. With the correct settings made on the proportionators the blending is, from that point on, automatically controlled.

The continuous operation of the unit makes it possible to move blended stocks directly from the mixer to the tankcars for shipment. This greatly reduces storage requirements. At the Sun plant, all of the lube storage is being used for the unblended stocks.

A wide variety of finished oils can be blended. Stocks of the following grades are kept at the plant: 100, 200, 500 and 2,000 viscosity pale neutrals, and a 150-175 at 210 grade of bright stock, from which a full line of lubricating oils of any intermediate viscosities can be blended to order.

Besides the regular lubricating oils stocked at the plant, special lard and vegetable oils are available for blending. Such nonmineral stocks are admitted to the Automixer through the third component which allows for a proportion of 0 to 20 per cent to be blended. The flow in that third line is reduced, so that the proportionator may operate with increased accuracy on the small volumes of the special components.

Operators take pride in a record of nine months' operation of the plant, with no shipment reported off specification. In addition to the products of the blending plant, the company stocks a full line of packaged lubricants which are shipped in mixed carloads.

Mineral Industries Conference to Be Held at Penn State

The seventh Pennsylvania Mineral Industries Conference is to be held April 30 and May 1 at the Pennsylvania State College, State College, Pa., at which many papers of interest to petroleum geologists, producers and refiners will be presented. Two papers will deal with geophysical prospecting methods. L. E. Randall, of Geophysical Co., Inc., will discuss the possibilities of discovering deeper sands and deeply buried anticlinal structures by means of the reflection seismograph. A second paper dealing with the application of geophysics to Pennsylvania will be presented by W. J. Gillingham, of the Schlumberger Well Surveying Corp., Houston, Tex.

Harry M. Ryder, of the Ryder-Scott Co., Bradford, Pa., will talk on "Well Shooting With Special Reference to Secondary Recovery Operation."

Other papers will be presented by C. W. Georgi, of the Quaker State Oil Refining Corp.; A. L. Black, of Ford, Bacon and Davis, Inc.; and B. H. Gardner, of the Gas and Electric Appliance Co.

Physical Properties and Yields of Lisbon Field Crude Oil

In the April 22 issue of The Oil and Gas Journal, page 26, Mitchell Tucker discussed the economic importance, geology, development and drilling programs followed in the Lisbon field of North Louisiana. Since this recently discovered field is proving to be a relatively important oil discovery the crude characteristics and yields of Lisbon crude are given below.

Physical properties of Lisbon crude tested as follows:

Gravity	34.5
Flash and fire	B.R.T.
Viscosity at 50° F.	139
Viscosity at 100° F.	63
Pourpoint	0
B.s. and w.	0.2
Sulfur, per cent	1.1
Color	Black
Overpoint	120

A yield of 20 to 30 per cent of high-quality paraffin base lubricating oil can be produced from this paraffin-intermediate base crude. A dewaxing operation will be necessary to lower the pourpoint, however. From 10 to 15 per cent asphalt can be obtained as a residue when processing lubricating oils.

The straightrun gasoline requires no chemical treatment to meet corrosion, doctor and sulfur specifications. The octane number of gasoline from Lisbon is indicated on tests to be low, and the tetraethyl lead requirement is high on the 400 endpoint gasoline. Perhaps the most economical operation would be to produce from 15 to 18 per cent of 325° F. endpoint gasoline with an octane number of about 51, which would require about 1.5 c.c. lead per gallon. The kerosene yield would be increased from 14 to 21 per cent under such an operation. The kerosene is paraffin base and requires no chemical treatment to meet specifications.

In case lubricating oil is not produced, the residue, after gasoline and kerosene have been removed, can be cracked to give the following approximate ultimate yields:

Straightrun gasoline, per cent off the crude	23.5
Kerosene	14.0
Cracked gasoline	31.0
Fuel oil (12 gravity)	25.5
Gas and loss	6.0

Summary of fractional analysis follows:

Product—	Per cent	Vapor temp.	Gravity	Flash	Fire	Viscosity	P.T.	Color
Gasoline	23.5	368	65.9	...	...	.....	...	30
Kerosene	14.0	500	47.5	150 Tag	...	.....	...	30
Gas oil	46.5	930	29.5	270	315	95 @ 100°	80	4
Residue	14.5	...	8.8	550	625	Heavy	100	Black
Loss	1.5	...	...	...	...	.....	...	..

W-K-M

Tubing slips and spiders

QUICKLY PAY YOU BACK WITH MONEY THEY MAKE FOR YOU

W-K-M Tubing Slips and Spider save at least 25% of the time ordinarily required to pull a string of tubing. The result is therefore 25% less labor cost, and also a saving of 25% of the production loss while the well is off. So it's easy to see where this tubing combination readily returns the user's investment, with dividends.

One man can operate the W-K-M Tubing Slip and Spider. There's no lifting, as the slips raise out of the spider when tubing is raised. One elevator is eliminated, and also any possibility of stripping collar threads and dropping tubing is prevented. Because of the uniform pressure against tubing maintained all around, and because of the large bearing area, these slips positively will not swage or cut the tubing. Spider is opened quickly to allow passage of tubing catchers. There are no springs nor small parts on either the slip or spider to cause trouble. They're furnished in Regular and Deep-well Types, to handle all tubing strings, regardless of depths. Operators everywhere know they pay for themselves with the first few barrels of oil saved. Write for Pamphlet No. 320.

We don't say they're non-destructive, but do say you don't have to handle them with care.

W-K-M Company, Inc.

OIL FIELD, PIPE-LINE & INDUSTRIAL EQUIPMENT

HOUSTON, Texas, U. S. A.

Export Office: 74 Trinity Place, New York

Cable Address: "WILKOMAC"

Chemical, Physical Methods of Removing Salt From Crudes

By E. R. JONES
Skelly Oil Co.

This paper was not prepared for the purpose of presenting a method that would serve as a cure-all for all problems dealing with the desalting of crude oil. Neither does it present the results of years of deliberate research on the problem. Instead, the paper will discuss the observations made and the results obtained while trying to find an immediate practical solution of the problem.

Throughout the discussion, the word "salt" does not refer to sodium chloride alone, but to the chloride content whatever the positive radical may be. Whenever quantities are mentioned, the results are expressed as sodium chloride.

Need for Salt Removal

The first question, of course, is why need the salt be removed from the crude? The first answer is the corrosion trouble that is traced directly back to the salt. This problem has seemingly increased with the increased acidizing of wells. The crude that is obtained from a dolomitic limestone will contain varying amounts of magnesium chloride if the producing well has been acidized with hydrochloric acid. The purpose of acidizing is to break down or make more porous, the limestone structure. The acid reacts with the limestone to form carbon dioxide gas, water, and the chloride of the positive radical that had been combined with the carbonate whether it had been calcium or magnesium. If magnesium chloride is present in the crude it will, by hydrolysis, revert back to hydrochloric acid which is very corrosive to iron. This type of corrosion is first noticed in the first stages of distillation and is combated by the use of ammonia, a relatively expensive chemical. This corrosion is noticed mainly in the condensing section of the units.

Sodium chloride and similar salts are suspended in the crude. They deposit on the heater tubes and still bottoms causing hot spots. It is also claimed[1] that they act catalytically to produce increased amounts of hydrogen sulfide.

A second reason for salt removal is the plugging of exchanger tubes and condenser sections because of the presence of salt in the crude being processed. The salt usually is present in a water solution emulsified with the oil. If the crude is passed through preheating exchangers, and sufficient temperature is reached in the exchanger to vaporize the water, salt will adhere to the tube walls, eventually plugging the tubes and necessitating a shutdown for cleaning. If the hydrochloric acid formed during distillation is neutralized with ammonia, the condensers and vapor exchangers, and indeed even the trays in the fractionating tower, have in some instances become plugged as a result of the deposition of ammonium chloride. Careful pH control tends, of course, to hold down such deposition to a minimum.

W.P.R.A. **—Presented before annual meeting, Hot Springs, Arkansas, April 26-28, 1937**

The third probable answer is the corrosion of still tubes. This is a question that deserves consideration and study in the future. There is more than surmise to this question. The corrosion seems to be confined to the tubes handling the heavier gas oils. Lime addition has been found greatly to reduce this corrosion. One refiner has installed a rather efficient desalting unit and no difference is seen in the rate of corrosion in cracking still tubes. However, less coke deposition is being obtained in the topped-crude viscosity breaking coil. This action is attributed to the removal of salt from the crude.

The fourth answer to the refiners that are making road oils and asphalt is the need for meeting such specifications as solubility and organic content on those products. Salt in the residue often brings about rejection of these products.

Salt exists in the crude in a water solution emulsified with the crude and also in crystalline form, probably surrounded by wax crystals or perhaps by amorphous wax. Because of the method of producing crude oil, the oil and brine are intimately mixed and it is practically impossible to prevent the formation of emulsion.

In a study of this problem, crude oil taken immediately from a well was shaken with 10 per cent water, allowed to stand for one hour, and was then analyzed for salt. Seventy per cent of the salt was removed in this manner. This suggests the possibility that the oil-brine emulsion tends to become stabilized with age. To remove the salt at this point in a much easier job but it means treating each well, which is not ordinarily practical. The refiner has to deal with the emulsion after it has become stabilized and that is what will be discussed in this paper. The subject, "Salt Removal From Crude Oil—Chemical Process," is possibly not quite accurate for the method is more physical than chemical.

Effect of Crude Standing

The salt content of the crude can be reduced by allowing long time standing of the crude. The following are data taken on a crude tank that had been allowed to stand four days. The samples were taken from the charge pump at the stills.

Time—	Salt—Grains/Gal.
9:30 A.M. 4-13-35	24.9
11:00 P.M. 4-13-35	25.2
11:00 P.M. 4-14-35	16.5
11:00 P.M. 4-15-35	18.5

The crude at the top of the tank had 70 per cent as much salt as the crude at the bottom. Not all refiners have sufficient crude storage capacity for such a treatment. Even so, there will be a pay day some day on the tank bottoms.

The salt content of the crude varies with the season as is shown by Figure 1. There is less salt during the warm summer months than during the cold winter months. This suggests the idea of lowering the viscosity of the oil with heat and thus aiding to separate the brine from the crude.

If the salt is present in an emulsion of brine in

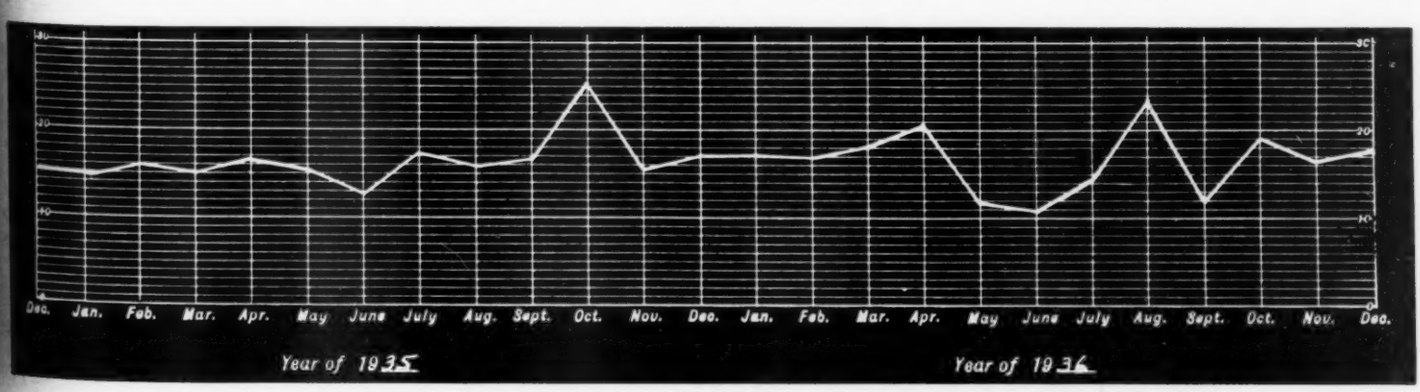

Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.
Year of 1935
Year of 1936

Fig. 1 — Salt in crude oil charged to stills—grains per gallon—expressed as sodium chloride

oil, the small particles of brine are dispersed throughout the oil phase. The very minute particles of water are unable to coalesce because of a resistant film surrounding the water particles. Whenever that film is broken, the small brine globules will contact each other and form a globule large enough to separate from the oil.

This oil film can be broken by several methods, but one of the most popular ways is the use of heat. This method is used by the Pure Oil Co. in the Michigan fields.[3] The emulsion is heated to approximately 100° F. and allowed to separate. After the emulsion has become more stabilized, it is often necessary to use higher temperatures. In some instances it is better to heat the mixture to 190-200° F.

The use of temperature has at least three beneficial effects. It lowers the surface tension of the oil, allowing the water particles to coalesce; it lowers the viscosity of the oil; and also causes a greater difference in specific gravity between the oil and brine, thus allowing better and faster separation.

Since this method does not bring about complete dehydration, and since some salt is present in the crystalline form it is necessary to add fresh water to the incoming crude. If sufficient heat is then put on the mixture and the two components intimately mixed, the fresh water will dilute the salt solution already in the oil and will dissolve any salt crystals that are present. The small amount of water that is not removed will be only slightly brackish. The amount of salt dissolved in the water left in the crude can be controlled by the volume of water used and this is one factor that will control the per cent of salt removal that is obtained within certain limits.

Use of Soda Ash

Some foreign substances will tend to break the restraining film around the water particles, and cause faster separation. Soda ash is one. The raw crude often contains a small amount of free acid which can be neutralized with the soda ash. The soda ash is introduced as a solution in the fresh water that is added to the crude. Water from the outlet of the vapor condensers may be used. This is not the ideal water to use, water such as boiler feed would be preferable but it is practical, particularly if it flows by gravity to the soda ash solution tank, and contains same process heat. The solution is then introduced in the suction of the crude-oil charge pump from there through exchangers where the required temperature is reached and then into a vapor-separating tank.

The purpose of the tower is twofold: First to allow more time for contact of fresh water and oil and give the fresh water more chance to bring the dispersed globules of brine into a larger mass and also to dissolve any crystalline salt that may be present. Finally, the tower is to bring about separation of vapors and oil before going to the settler. A constant level is automatically held, within certain limits. There is also a water draw-off connection on the bottom to remove the water that separates in the tower. The time in the tower under ordinary operating conditions must be carefully controlled.

It is essential to remove the vapors that have formed before going to the settler, for the vapors have served their usefulness and now become a menace. Vapors, if present in any more quantity than a trace, tend to keep the contents of the settler agitated. This impairs separation of water and oil.

The water-oil mixture enters the horizontal settler near one end. The incoming pipe extends up into the settler about one-fourth way and is turned with the outlet opening facing that end of the tank. In this manner the incoming stream is not permitted to flow at high velocity across the main body of oil and as a result the tendency to form eddy currents is reduced. The oil flows out the top at the opposite end, and the water is drawn off the bottom.

The following are some operating data:

	No. 1	No. 2	No. 3	No. 4	No. 5
Salt in raw crude, grs./gal.	19 0	14 1	20 1	20 1	...
B.s. and w. in raw crude, per cent	0 6	0 4	0 4	0 3	0 3
Water in mixture, per cent	1 7	1 6	1 8	1 5	1 8
Salt in crude after settler, grs./gal.	6 0	4 2	8 1	11 1	...
Water in crude after settler, per cent	0 5	0 3	0 4	0 7	0 3
Salt removal, per cent	68 5	70 2	59 7	45 0	...

Data Nos. 1, 2 and 3 are taken under normal operating conditions; No. 4 is to show the effect of lower temperatures. In this case the temperature on the crude-water mixture was 145° F. The dehydration and desalting were not as good as at higher temperatures. The No. 5 set of data were taken when conditions were such that the time in the settler was nearly 50 minutes and indicates that complete dehydration cannot be expected. This can be explained in this manner. As a majority of the small droplets coalesce, the remaining droplets are, as a result, fewer in number and farther apart and consequently their chances of contacting and coalescing become less and continue to do so as the process proceeds.

The exchangers have given very little trouble since this method has been in use. One refiner[4] that experienced considerable trouble with exchangers salting up has found that if the crude is completely dehydrated before entering the exchangers, the salt will not deposit in the tubes.

Since removing a portion of the salt, the necessary amount of ammonia to hold down corrosion in the condensing equipment has been noticeably reduced. The crude heaters make better runs when the salt is removed. As to corrosion of tubes in cracking stills, that will have to be left for further study.

I wish to thank H. L. Bedell of the White Eagle division of the Socony-Vacuum Co. at Augusta, Kans.; C. W. Berger of the Globe Refining Co. at McPherson, Kans., and C. O. Orrison of the Dickey Refining Co. at McPherson, Kans., for the information they gave and which was used herein.

References

1. Refiner and Natural Gasoline Manufacturer, March, 1937, page 99. The Oil Corrosion Problem, Gustav Egloff.
2. Dickey Refining Co., McPherson, Kans.
3. The Petroleum Engineer, March, 1937, page 47. Separation and Disposal of Salt Water in Michigan Fields, J. C. Albright.
4. Globe Refining Co., McPherson, Kans.

Stovepipe Method Used to Lay 94-Mile West Virginia Line

An innovation in electric welding was recently employed in laying the 94-mile pipe line of the Hope Natural Gas Corp. from Hastings to Clendenin, W. Va. The line was laid through the heart of the West Virginia mountains, the right of way being so rough and inaccessible that only 20-foot lengths of pipe were ordered and the "stovepipe" method of pipe line construction employed. Although the stovepipe method had previously been employed on short and small-diameter lines, this was the first time that it was used on a major, large-size pipe line.

The line was built to carry high pressures, 12¾-inch seamless pipe of three-eighths inch wall thickness being used. Electric welding was specified for the field joints.

Under the stovepipe method of construction each joint is handled individually and welded onto the line one joint at a time. Under the usual method of construction, the joints of pipe are lined up on skids and dollies and roll-welded ahead of the ditch into long sections of approximately 200 feet. These sections are then placed over or in the ditch and tied in with bellhole or position welds. The pipe is then lowered into the ditch. The stovepipe method differs in that each weld is a position weld. Therefore the lining up of pipe in long sections and roll-welding is eleminated.

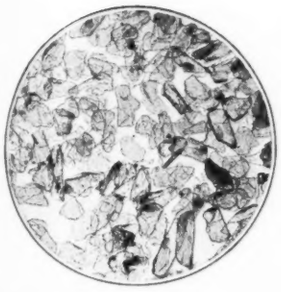
Because of the extremely rough country and the difficulty in transporting equipment, only a limited amount of pipe could be laid per day by either method. It was found that by the addition of a couple of welding machines, and at the same time eleminating the line-up crews and their tractors, the required number of welds could be made each day even though they were all position welds.

Pipe-stabbing crew with two welders tacking and making first beads

The right of way was cleared, pipe strung and the ditch dug ahead of the bending operations. Bending of the pipe was also performed ahead of the stabbing and welding crews. All bends on single joints were made by fire. Hand winches and hand labor were used. Each joint was lined up on skids across the ditch and as a subsequent joint was laid over the skids two welders immediately tacked same and applied the first bead completely around the pipe.

Following the pipe crew came the main welding gang comprised of eight to ten welders. These welders completed each weld by adding three additional beads, around the pipe, and the pipe was then ready for lowering into the ditch. At road crossings and other pipe line crossings or obstructions, a skip was usually left by the pipe crew so as not to hold up their daily progress. These skips were welded in by a small crew and one welder coming behind.

Three gangs were used with two tackers, nine or ten welders and one final tie-in welder in each gang. There was a total of 24,765 welds in the line. Despite the fact that heavy pipe was used and much time was lost in moving the equipment, and that they were often handicapped by bad weather, the welders averaged 1.46 tie-in welds per hour. The maximum day's run of one gang was 180 welds with nine welders. The machines of the main line welders were moved by two tractors on each gang. The tacking machines were also moved by tractors. With the exception of a few strips of fairly level country, all of the stringing, ditching and handling of the pipe was done by hand. The contour of the country was so precipitous that machines and tractors for handling the pipe could be used only occasionally. Ligon & Ligon of Baltimore, Maryland, were the contractors on the ditching, bending, pipe laying and back filling and H. C. Price, Inc., of Bartlesville, Okla., were the welding contractors.



Reproduction of the micrograph at the left shows the interlocking of the flakes of the internal reinforcement used by Barrett. By laminating with the waterproofing agent, they give Barrett Pipe Line Enamels unusual toughness and resistance to soil stresses.

For pipe of large diameter, The Barrett Company will furnish equipment required to revolve pipe and spread enamel.

LOW COST . . . per year of service . . . per mile of pipe line covered

Barrett PIPE LINE ENAMELS

FIELD SERVICE The Barrett Company maintains a Pipe Line Service Department to assist engineers in all coating problems, and also has available Field Service men whose assistance is offered where Barrett's protective coatings are used. Inquiries are invited.

The unique flake-type filler used in Barrett Pipe Line Enamels permits the use of *smaller* quantities of filler with *larger* quantities of coal-tar pitch waterproofing base. The resultant lower specific gravity of Barrett Enamels means that less material is required per mile of pipe line covered. This important economy is but one of the many reasons why Barrett Enamels are the first choice of engineers who must measure their work in terms of cost per mile per year of service.

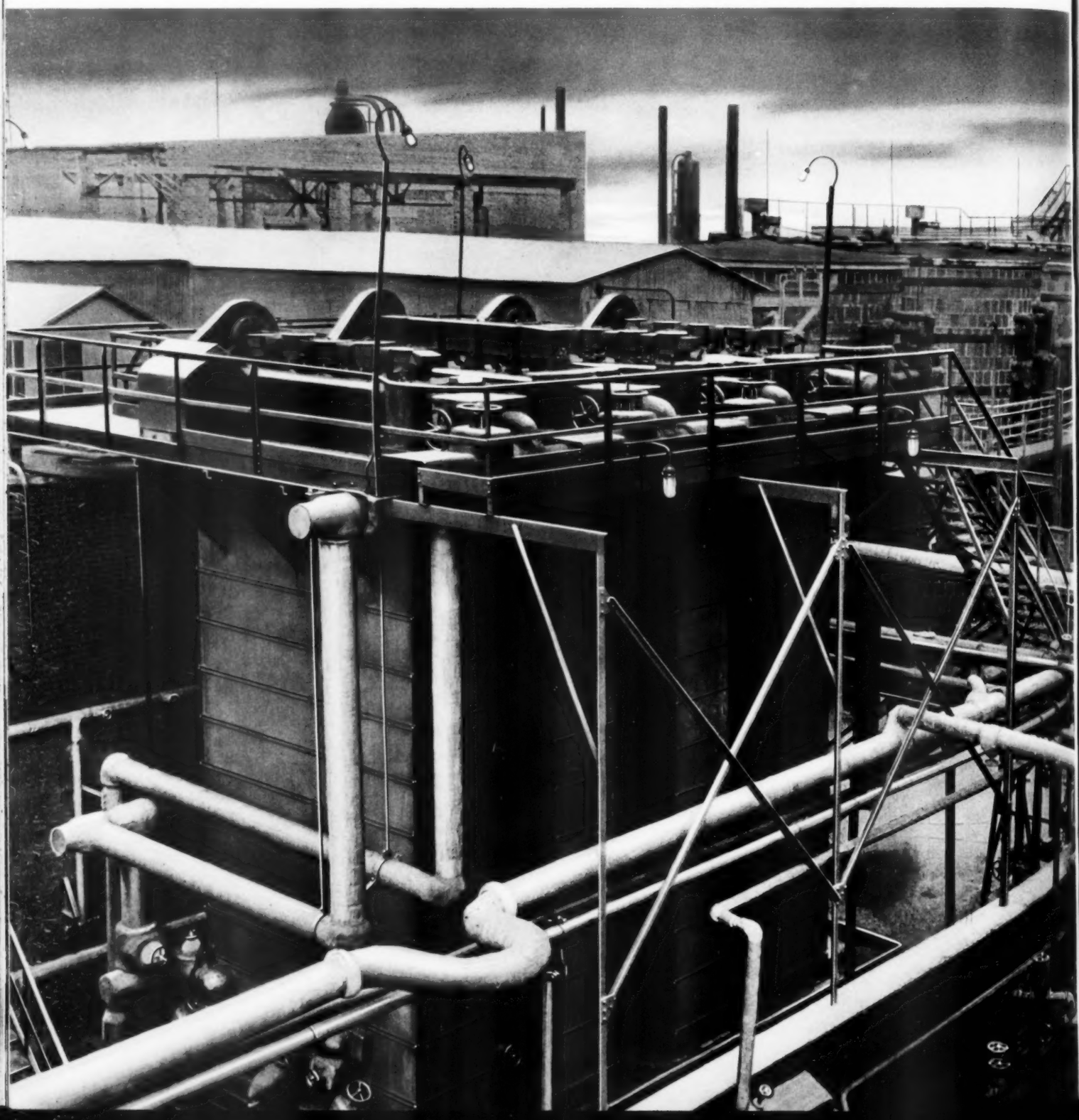
THE BARRETT COMPANY

40 Rector Street New York, N. Y.

BETHLEHEM WAX PLANT E

THE Bethlehem Chilling Machine is of the vertical type, which provides more positive scraping — a cleaner chilling surface, with a definite improvement in heat transfer and less wear on the scrapers themselves. It also has the distinct advantage of requiring very little floor space. Being an upright unit, a 312-sq.-ft. machine will stand on a base less than 12 feet long by two feet wide — a considerable saving in both space and foundatio costs over the horizontal units.

The Bethlehem unit can be and usually is installed ou side. No building or housing is necessary — a weathe proof cement gives ample protection to the cork-boar covering. The unit lends itself to a highly efficient typ of insulation, holding radiation losses to the minimum



EQUIPMENT

The Bethlehem Filter Press is one of the oldest and best known on the market. Our first press (built under the name of Moore) was completed about 1880. Since that time a good many hundred have been built and installed in oil-refinery plants all over the country. The filter press still remains the most economical method of removing wax in many types of plants, and where this is true you will invariably find the Bethlehem press considered one of the finest on the market.

★ ★ ★

New types of paraffin extracts are complicating the question of how to store and ship the wax. Bethlehem Wax Mould Presses have thus far answered the question. These presses, built in two sizes, mould wax into 10¾-pound cakes for large users of the paraffin or into ¼-pound cakes for the retail trade. The cakes offer the advantage of being easily stored and shipped; the presses give comparatively rapid moulding and will operate satisfactorily regardless of weather and temperature conditions.

FOR THE OIL FIELD

SUCKER RODS—

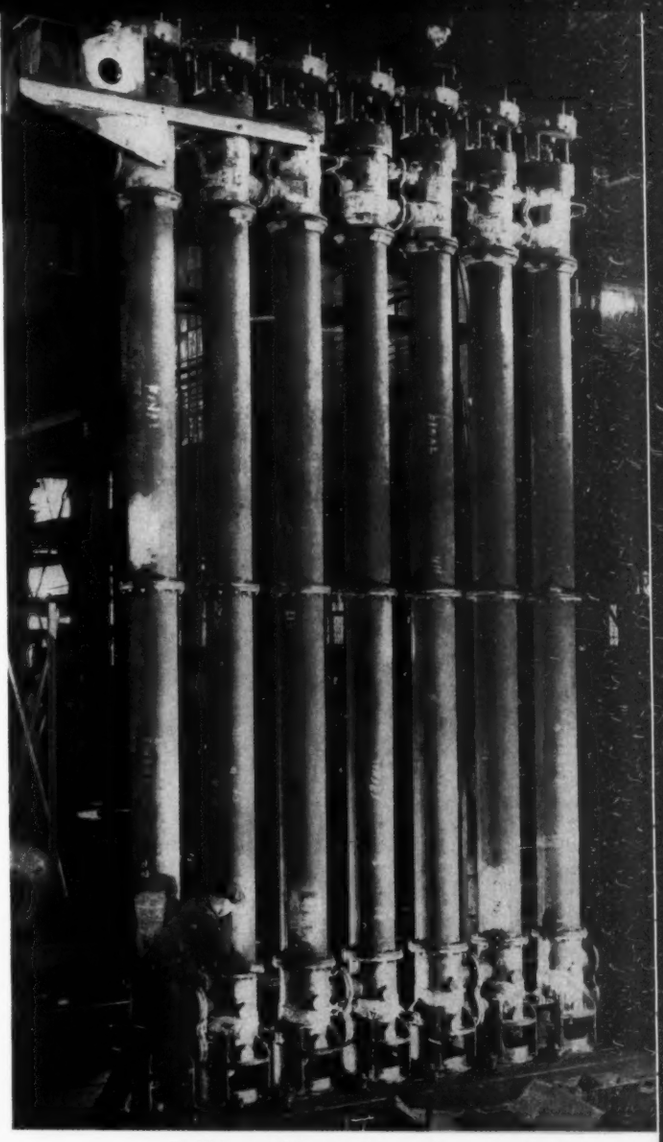
Bethlehem Sucker Rods are made in two grades: Mayari for corrosive wells and XX copper-bearing for non-corrosive wells. In both grades the rods are normalized over their full length.

LINE PIPE—

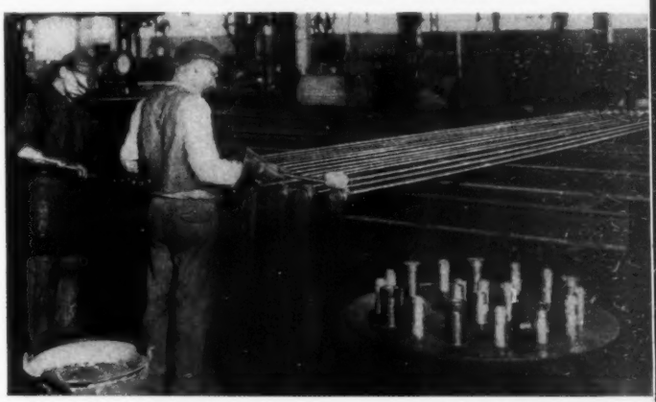
Bethlehem Line Pipe is made in all standard sizes up to and including 16-inch. It can be furnished in single or double random lengths, and conforms to A.P.I. Standards for this type of pipe.

OTHER PRODUCTS—

The complete list of Bethlehem Products for the oil industry includes tankers, barges, tank cars, and tank farms; bolts and nuts including those for high-temperature applications; steel roofing; tool steel—in fact practically all products of carbon or alloy steel used by the industry.



Bethlehem Chilling Machine under construction



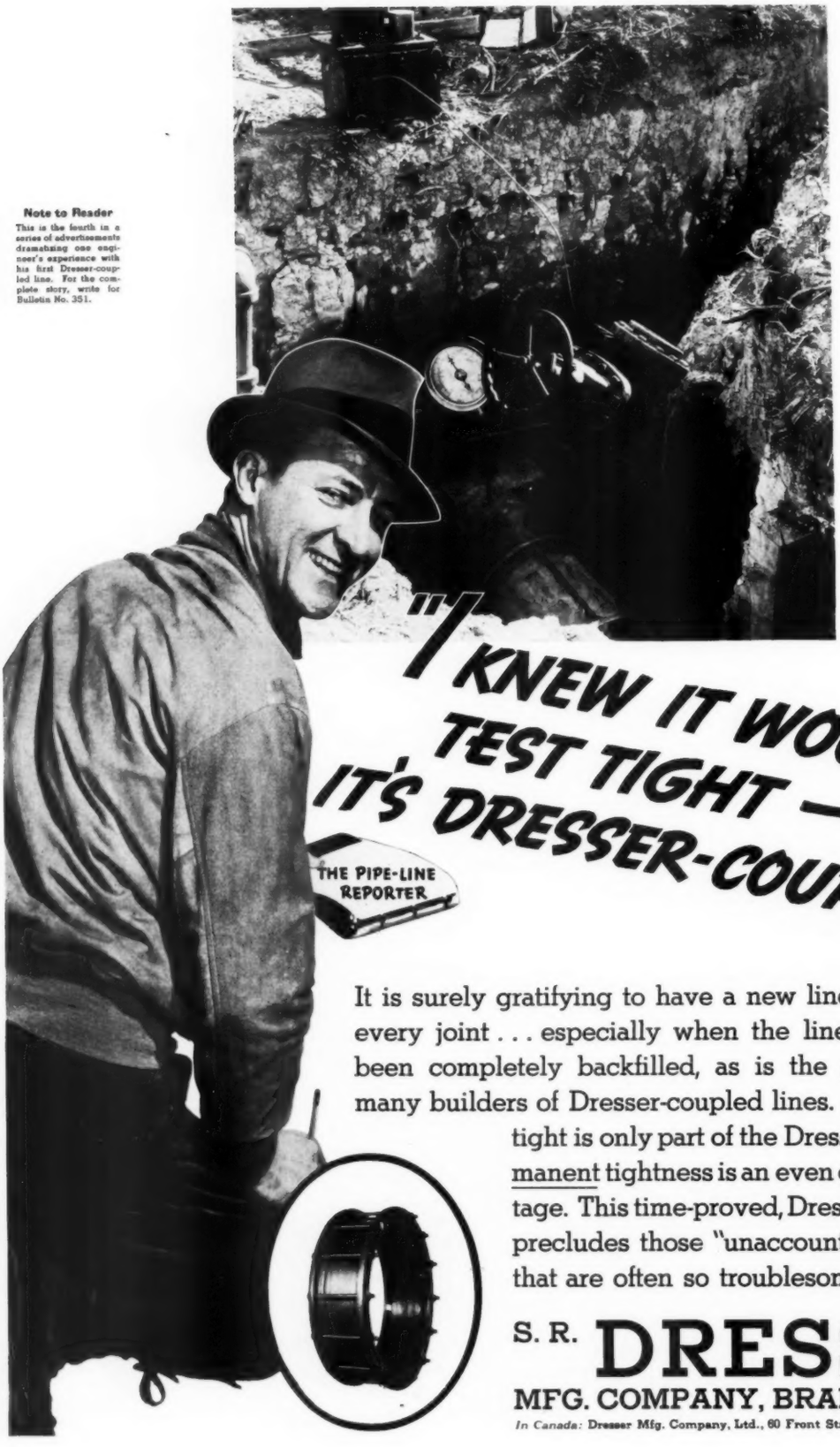
Above—Inspecting Sucker Rods *Below—Laying Bethlehem Line Pipe*

BETHLEHEM STEEL COMPANY

BETHLEHEM STEEL

Note to Reader

This is the fourth in a series of advertisements dramatizing one engineer's experience with his first Dresser-coupled line. For the complete story, write for Bulletin No. 351.



"I KNEW IT WOULD TEST TIGHT — IT'S DRESSER-COUPLED"

THE PIPE-LINE REPORTER

It is surely gratifying to have a new line test tight in every joint . . . especially when the line has already been completely backfilled, as is the practice with many builders of Dresser-coupled lines. • But, testing tight is only part of the Dresser story. Permanent tightness is an even greater advantage. This time-proved, Dresser advantage precludes those "unaccounted-for" losses that are often so troublesome and costly.

S. R. DRESSER MFG. COMPANY, BRADFORD, PA.

In Canada: Dresser Mfg. Company, Ltd., 60 Front Street, West, Toronto, Ontario

Extracting Salts From Charging Stocks by Electrical Process

By G. B. HANSON
Petroleum Rectifying Co.

Although salts in charging stocks have long been recognized as the source of many of the troubles encountered in refineries, it is only recently that the problem has become one of major importance. This is due in large measure to the increased use of cracking. Whereas the effects of salts were not particularly serious in skimming and topping operations, they have become more aggravating as the temperatures and pressures used in cracking processes have been increased.

Refiners have been very active during the past few years in efforts to find a practical, efficient and economical method of dealing with this problem. Of the various methods now being employed, the most important are the removal of salts from charging stocks by various means, the use of neutralizing agents to combat the corrosive effects of salts and the utilization of new corrosion-resisting alloys in distillation and cracking equipment.

The most effective means thus far developed is the extraction of the salts from the crude oil before the oil enters the refinery system. This method attacks the problem at its source and has the advantage of removing the salts before they have an opportunity to affect operations or do any damage to distillation equipment. It is in this manner that the electrical process is used.

The principal effects of salty charging stocks upon refinery operation may be summarized briefly as follows: (a) Corrosion; (b) coke deposition in cracking equipment; (c) salting and scaling in fractionating and condensing equipment, and (d) the deleterious effect of the salts upon refined and residual products.

The salts responsible for these difficulties are in the crude oils delivered to the refinery and will be found either as crystals or in solution in the residual oil field brine. Large volumes of salts may be present in solution in very small percentages of dispersed water. As an example, for every 3,000 bbls. of charging stock containing as much as .5 per cent of average oil field brine of about 1.10 specific gravity, 1,000 pounds of salt will be taken into the refinery system, all this salt being contained in the relative amount of water.

The treatment of limestone formations with hydrochloric acid to increase production has added to the salt problem in some localities due to the formation of salts which become suspended in the crude oil.

The salts that cause most of the trouble in refineries are calcium and magnesium chloride. These salts are hydrolyzed during the distillation process and hydrochloric acid is formed. It has been estimated that corrosion difficulties, due to this cause, will be encountered in the cracking operation if the magnesium and calcium chloride content is in excess of 25 pounds per 1,000 bbls. (11.4 grams per barrel) of charging stock.

Corrosion will be particularly severe if hydrogen sulfide as well as hydrochloric acid is present.

W.P.R.A. **—Presented before annual meeting, Hot Springs, Arkansas, April 26-28, 1937**

This is probably due to the fact that the hydrogen sulfide reacts with the metal equipment to form iron sulfide, which in turn reacts with the hydrochloric acid to form iron chloride, at the same time regenerating hydrogen sulfide. This corrosive cycle can be prevented by the removal of the salts in the first instance.

With the increased demand for petroleum products, on-stream time is becoming a factor of considerable importance in refinery operations and existing facilities are being taxed to the limit to meet requirements.

In many instances the length of time a refinery unit can remain in continuous operation is fixed by the rate of coke deposition in the cracking equipment. That this deposition is due largely to the presence of salts in the charging stock is proven by the fact that a reduction in salt content will be directly reflected in the amount of coke deposited. As a result of almost complete salt removal by the electric process, the on-stream time of some cracking units has been increased as much as 1,000 per cent.

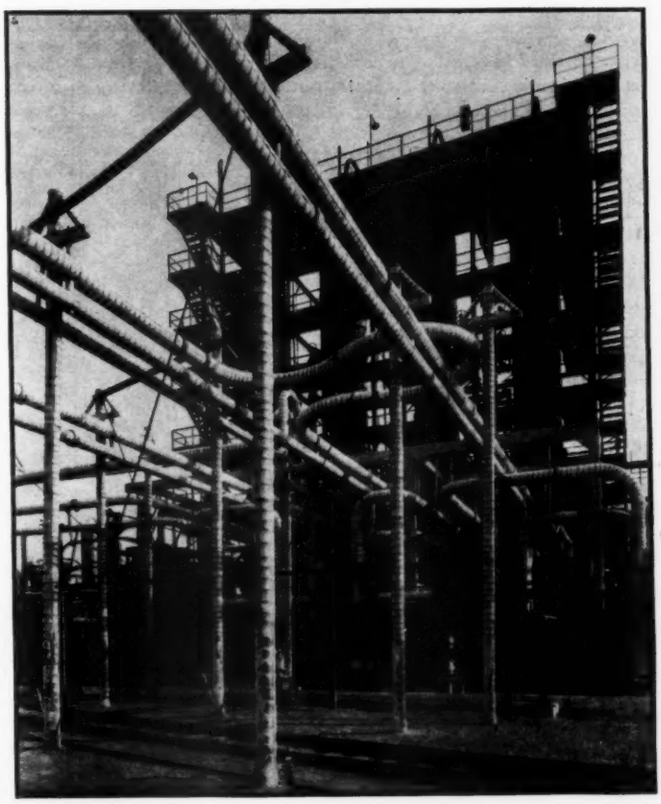
The necessity of shutting down distillation and heat exchange equipment for cleaning has also been reduced as a result of efficient salt extraction. In addition to the cost of labor involved in cleaning operations of this kind, the resultant wear and tear on equipment is a factor of considerable importance in refinery operating expense.

The quality of residual products will also reflect the advantages of salt removal. This is particularly true of asphalt in which case the presence of salts and other insoluble materials is especially objectionable.

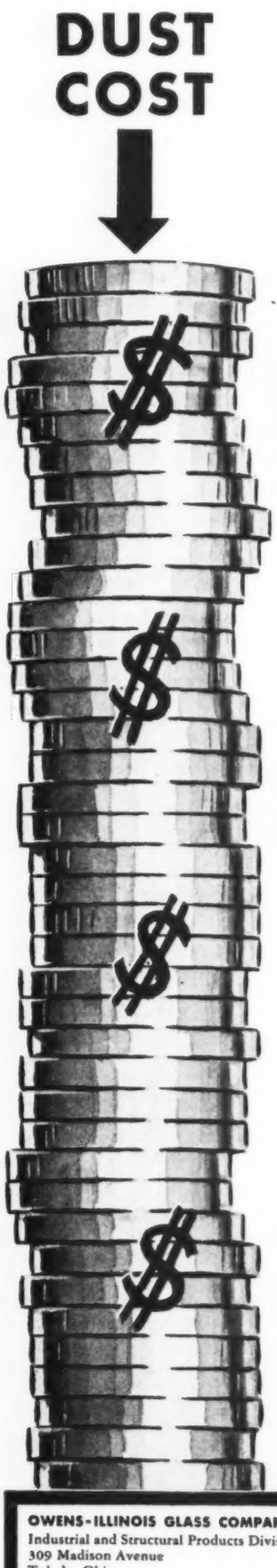
One of the most essential characteristics of a satisfactory refinery desalting process is that it can be incorporated into the refinery system in such a manner that the charging stock may be treated and returned to the system without prolonged settling. The electrical process is particularly advantageous in this respect due to the fact that it involves no separate settling step the separation taking place within the electric unit. Desalted oil leaves the top of the electric treater while the water containing the extracted salts is continuously withdrawn from the lower portion. The oil passes directly from the treater into a surge drum from which it continues through the refinery system.

The successful operation of the first commercial electrical desalting plant has resulted in the adoption of the process at numerous refineries in various parts of the United States. From the operation of these units, a considerable amount of information has been obtained regarding the efficiency of the process. The results of these operations are briefly summarized in this paper.

The electrical desalting process includes the use of an electric treater together with an arrangement for obtaining a suitable mixture of the oil with a quantity of fresh water. The desired mixing action usually is obtained by pumping the oil and water through a suitable mixing valve. The pressure maintained on this valve will depend



Looking toward the towers of part of debutanizing unit in the Bayway, N. J., refinery of the Standard Oil Co. of New Jersey



Compare results

...AND MAKE SAVINGS LIKE THIS

DUSTOP

REPLACEMENT-TYPE

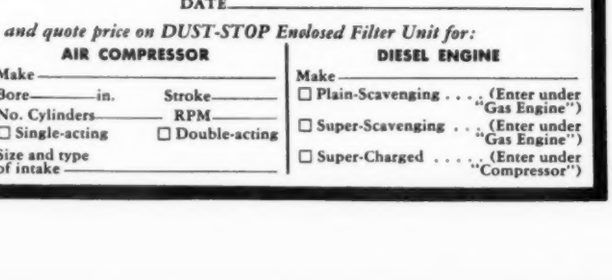
AIR FILTERS

● *There is only one way to buy air filters* and that is by comparing the results obtained in actual oil field and pipe line service. Any other method is mere guesswork that may prove extremely costly.

Engineers who adhere to rigid standards of comparison specify Dust-Stop Replacement-Type Air Filters because of their far superior ability to catch and *hold* large quantities of dust. Under severe dust conditions Dust-Stop cells 20″x25″ have caught more than 7 pounds of dust in three hours, and have saved 39 times their cost in reconditioning expense alone.

Start *now* to increase efficiency and save money with Dust-Stop Enclosed Air Filter Units. Fill in the form below, attach to your letterhead and mail today. Our reply will bring illustration, specifications and price of the correct unit for your equipment. Owens-Illinois Glass Company, Toledo, Ohio.

DUST-STOP COST



OWENS-ILLINOIS GLASS COMPANY
Industrial and Structural Products Division
309 Madison Avenue
Toledo, Ohio

DATE_____

Please send us description and quote price on DUST-STOP Enclosed Filter Unit for:

GAS ENGINE

Make_____
Bore_____in. Stroke_____
No. Cylinders_____ RPM_____
☐ Two-cycle ☐ Four-cycle
☐ Single-acting ☐ Double-acting
Size and type of intake_____

AIR COMPRESSOR

Make_____
Bore_____in. Stroke_____
No. Cylinders_____ RPM_____
☐ Single-acting ☐ Double-acting
Size and type of intake_____

DIESEL ENGINE

Make_____
☐ Plain-Scavenging . . . . (Enter under "Gas Engine")
☐ Super-Scavenging . . . (Enter under "Gas Engine")
☐ Super-Charged . . . . . (Enter under "Compressor")

upon the type of oil being processed and various other factors.

After leaving the valve the mixture is immediately run into an electric treater where it is subjected to a high-potential electric field, the effect of which is of particular importance in the process. As a result of the action of this field it is found that when the water subsequently settles out of the oil by gravity it carries practically all of the salts originally present. Comparative tests show that a much higher percentage of salt is extracted in this manner than when the mixture is separated by other means. The entire process is continuous and very rapid. The effective salt removal is about 90 per cent in every case and in some plants is as high as 98 per cent. The quantity of wash water required varies from 5 per cent to 20 per cent of the volume of oil.

Operating Temperature

The operating temperature varies from 130° F. to 200° F., depending upon the nature of the oil and local conditions. In all cases the temperature must not be high enough to start vaporization inside the treater tank. The treater tanks are 10 feet in diameter by 12 feet high and designed to operate at 35 pounds per square inch. If desired, back pressure can be maintained on the tanks by use of valves installed on the outlets. The power consumption will run from 1.5 kw. to 2.5 kw. per unit. The maximum demand per unit will be 8 kv. amp. but this demand will seldom occur.

The electrodes are so designed that the conducting surfaces are very small and the leakage of power through the oil is kept at a minimum.

Transformers rated at 5 kv. amp. giving potentials of about 16,500 volts are commonly used in desalting work, and when two transformers are employed on a single desalting unit, as is usually the case, the circuit is designed so that the high-tention side of each transformer is connected to one of the electrodes.

The polarity of the transformers is so arranged that when connected in this manner there will be a potential of 33,000 volts between the electrodes but only 16,500 volts from each electrode to the grounded treater shell. This results in localizing the maximum voltage in the treating field where it is needed and simplifies the problem of insulation.

An automatic switch at the top of the treater serves to control the power to the unit. When the liquid level is lowered for any reason the power is cut off. Electricity thus can be delivered to the electrode system only when the treater is full of liquid.

The results obtained in operating the various installations are remarkably uniform regardless of the type of oil being handled. Capacities per unit range between 1,500 and 2,000 bbls. of oil per day, and the reduction of salt has averaged over 90 per cent.

Some of the effects on refinery operation thus far noted are:

1. Improvement in asphalt quality.
2. Longer and more uniform operating periods.
3. Elimination of corrosion.
4. Saving in fuel.

Citation of results obtained in a few commercial installations may be of interest in showing capabilities of the electric desalting process.

In the case of one installation for desalting 36 gravity A.P.I. eastern Kentucky oil the crude contains between .5 per cent and 1 per cent b.s. with a salt content varying between 100 and 300 grams per barrel, consisting principally of sodium, calcium and magnesium chlorides. The charging stock consists in part of fresh production and partly of oil that had been in storage for several years. The salts present in this oil are of such character and are present in such quantities that before installation of the electrical desalting process the asphalt manufactured at this refinery did not meet solubility specifications. Installation of

the new desalting equipment increased the solubility of the asphalt from 99.50 per cent to 99.95 per cent, or better, and reduced ammonia requirements to a negligible amount. Desalting also practically eliminated previously experienced corrosion of equipment and increased the length of possible runs of the cracking units by over 300 per cent.

When the refining equipment is shut down for cleaning it has been found that the coke is soft and easily removable as distinguished from being very hard and difficult to remove before installation of the electrical desalting equipment.

This plant is now being operated at a temperature of about 180° F. and reduces the salt content from an average of 168 grams per barrel to 10 grams per barrel.

In another refinery producing large quantities of asphalt it was found that while solubility requirements could be met, the oil contained so much salt that economical operation of the asphalt unit could not be maintained, and it was necessary to shut down for cleaning this unit every few days. The plant was also experiencing considerable corrosion trouble and operated on oil of approximately 18° A.P.I. gravity containing salts up to 150 grams per barrel. After installation of an electric desalting unit these troubles were largely eliminated and the plant has been in operation for over one year with a daily capacity between 2,500 and 3,000 bbls. Due to the resulting efficient operation and long uniform operating periods, this refinery unit is now turning out an exceptionally high grade of asphalt. At the same time, the asphalt plant can be kept in operation for 60 days or more without the necessity of shutting down.

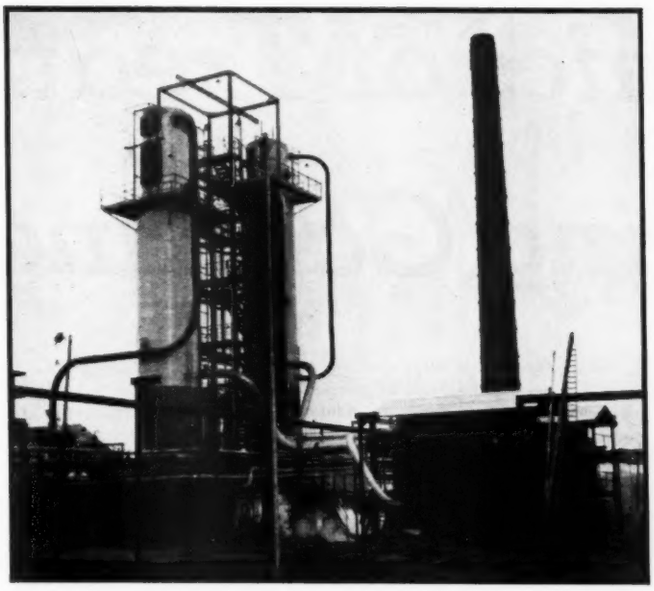
This same refinery has a second electric-desalting plant in operation on another refining unit treating 24° A.P.I. gravity oil containing as high as 80 grams of salt per barrel.

Both these plants are operating at approximately 160° to 175° F. and are reducing the salt content to less than 8 grams per barrel. The reduction in hydrochloric acid generation in the cracking unit is approximately 99 per cent.

Corrosive Michigan Crude

Another plant was installed for the purpose of handling a 40-gravity Michigan crude. This oil contained up to 120 grams of salt per barrel, and since an extraordinarily large percentage of this salt was magnesium chloride, the corrosive effects of this oil were unusually severe. This refinery does not make gasoline but turns out a number of specialty products and sells the reduced crude to another refiner for cracking purposes. The salt content of the original crude is being reduced to about 2 grams per barrel. The generation of hydrochloric acid in the topping unit has been almost completely eliminated, and the salt content of the reduced crude has been lowered to such a point that the cracking unit is able to run many times longer than before installation of the electric desalting equipment. In addition to the salts found in the oil, the equipment at this plant also removes a large quantity of solid matter which is in suspension. The run-time of this unit was increased from an average of 12 days to an indefinite period. One continuous run of over 100 days was reported.

The same company installed a 6,000-bbl. electrical desalting plant on a combination high-pressure unit which had just been built at another of its refineries. The run-time of this unit was increased from 7 days to over 30 days by installation of the desalting equipment. During the operation of this plant a seven-day test run was made on a blend of oils from the Mid-Continent fields, principally Seminole production. This test was run for the purpose of obtaining data for the design of a second refinery unit to handle this crude, and the results obtained with the desalting equipment were so satisfactory that this equipment has been incorporated in the design of three new refining units which this company is building.



Topping unit in the Hanover, Germany, refinery of the Gewerkschaft Deutsche Erdoel

Kansas Installation

A two-unit installation was made for a 2,500-bbl. refinery in Kansas. This refiner was desirous of carrying out a viscosity breaking operation but on account of the salt present in the oil, the furnace plugged up after about seven hours' operation. The electric desalting units reduced the salt to less than 4 grams per barrel and enabled the refinery to run its viscosity breaker for an indefinite period. Furthermore, all corrosion was eliminated. As a result of experiments it was found possible to reduce the water requirements to 125 bbls. per day for 2,500 bbls. of oil.

These installations, operating on such a wide variety of oils ranging from 18 to 40 gravity and including four general classes of oil being produced in the Mid-Continent, indicate that the process is applicable to nearly every type of crude being processed. Samples of oil from many points throughout the Mid-Continent area have been tested and many of these oils show extremely high salt contents, although they have been treated in the field to a low water content. Samples obtained from East Texas fields show that the salt content of this oil is rapidly increasing and that, as the water table rises in this field, the refiners handling East Texas crude may expect more and more trouble from salt. Rodessa crude has been found to contain approximately 35 grams of salt for each one-tenth of 1 per cent b.s. and w. content. Samples from the coastal fields of Louisiana have been found to contain as high as 600 grams per barrel. Many other samples from all parts of the Mid-Continent and Gulf Coast fields, as well as from abroad, indicate that, regardless of the source of the oil, there is nearly always an appreciable amount of salt present. Most of the samples were obtained from oils which have undergone a reasonable amount of settling, thus indicating that the percentage of m. and b.s. had been reduced to the lowest value which could be expected.

Analyses of the brine from these oils indicate the presence in nearly all cases of enough magnesium chloride to give an appreciable evolution of hydrochloric acid on heating. Samples from Urbana, Arkansas; Michigan; Duncan, Seminole, Cushing and Drumright, Oklahoma; Port Barre, Louisiana; White Castle, Louisiana; and Porterville, Texas, indicate that plants handling these oils will not only have corrosion problems but can expect a certain amount of stoppage of the equipment, due to settling out of the salt. It is also becoming noticeable that the quantity of salt is increasing throughout the Mid-Continent area, and this fact, together with the increasing number of modern refineries being installed, makes the problem assume very serious aspects. One refiner has found that a new 20,000-bbl. unit recently completed will handle only certain portions of the oil available and that it is necessary to keep old shell still equipment in operation until the problem of salt removal can be solved. Another refinery handling 10,000 bbls. per day of Rodessa crude gets between 50 and 200 hours' operation on the topping unit and about 24 hours on the subsequent cracking operation. The naphtha from the topping unit is highly corrosive and solid matter settling out in the furnace tubes averages 42 per cent salt.

Operating costs include power for the treaters and pumps, the cost of water, some heating expense depending on equipment, and the process royalty. On plants installed to date no extra labor has been required. The operators inspect and regulate the treaters along with their other duties. Most refiners have not charged heat against the cost of electrically desalting, due to the fact that the only additional heat required has been that used to raise the temperature of the wash water.

The chief advantages of the electric method are its efficiency, simplicity and reliability. The removal of the salts will be 90 per cent or better on nearly every type of oil. The operation is semi-automatic and gives ample warning of impending process failure so that operation can be corrected before the refinery proper is affected. The process will handle every type of reasonably fresh crude encountered to date, and has occasionally handled storage several years old.

Main welding crew on Hope Natural Gas Corp.'s recently completed 94-mile line in West Virginia

Economics of Treating and Inhibiting Gasoline

By DR. P. S. NISSON and W. B. ROSS
Pure Oil Co.

In manufacturing motor fuel for internal combustion engines, the refiner must keep in mind two paramount factors. The first is to deliver a final product of suitable quality and the second is to do this at lowest possible cost. While it may be reversing the proper order of things, the importance of the preservation of quality justifies the mention of it before giving the details of just what constitutes quality. It is rather obvious that once a gasoline has been made, there should be as little change as possible in its quality from the time it leaves the refinery until final consumption. The criteria of quality of varying importance are gum content (potential or dissolved), stability of gum characteristics as determined by resistance to oxygen under pressure, sweetness or odor, freedom from corrosive characteristics, sulfur content, vapor pressure, octane number, color and distillation range. Ordinarily when speaking of treating gasoline, certain of the characteristics as listed above are excluded. This applies particularly to vapor pressure and distillation range which are, or should be with proper facilities, little affected by treating. For this reason our discussion will not deal with this part of gasoline quality.

W.P.R.A. —Presented before annual meeting, Hot Springs, Arkansas, April 26-28, 1937

The writers of this paper do not intend to set up what constitutes proper criteria of quality as regard any of the above items. The individual refiner will have to determine these for himself, based on many factors with which he alone is entirely familiar. It naturally follows that each refiner must really determine for himself, based on what constitutes adequate quality for his materials, just how these properties may be most economically attained. Such being the case, it is hoped that the differences between the experience of others and that described in this paper will be interpreted as normal variation in a rather complicated manufacturing process.

Cost Accounting

A further difficulty which many times in the past has obscured the proper valuation of refining processes, is that methods of cost accounting have not been standardized in the petroleum industry. One part of this accounting procedure which has been at times almost entirely neglected but which is more recently receiving proper attention, is the matter of degradation of one quality in processing the gasoline to attain another. This applies principally to the question of octane values. For many years the average refiner has had no idea just what doctor sweetening was costing him because he did not appreciate the effect of treating with doctor solution and sulfur upon octane value and more recently on tetraethyl lead susceptibility.

The present discussion may be of some assistance to the individual refiner in checking over his present methods of processing, and perhaps with the aid of some experimental work on his own products, to arrive at the most economic handling of gasoline in his refinery. If this be true, the purpose of the paper will have been achieved even though the answer to a particular set of conditions is not contained in it.

Treating Classifications

The treating of gasoline may be roughly subdivided into two classifications, though very often a single refining process will take care of both. To achieve proper color, gum content, or stability of certain properties in storage, the raw product in question may be treated with sulfur acid, an absorbent, or by miscellaneous materials. Included in this category should be addition of an anti-oxidant or inhibitor which may be used by itself to deliver a satisfactory product, or combined with any of the processes mentioned above.

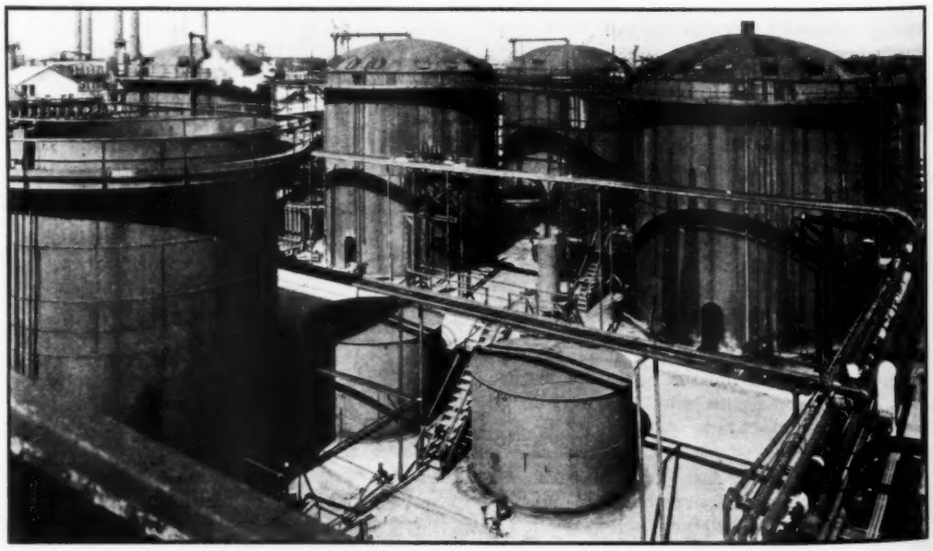
The second classification has, by a combination of circumstances, achieved an importance in the treating of gasoline which is not entirely consistent with its real value. Reference is made to the sweetening of gasoline, primarily a treatment to impart satisfactory odor to the finished product.

In treating gasoline under the first classification, the simplest and most economical method is the addition of anti-oxidant to either sweetened or washed gasoline. Whether or not a merchantable gasoline can be made by sweetening or washing and inhibiting depends, of course, on the nature of the material being handled and the quality desired. The equipment necessary for the addition of the inhibitor is not expensive for the reason that the inhibitor may be injected into the gasoline in the blending operation. The equipment to handle 10,000 or 15,000 bbls. of gasoline per 24 hours can be installed at a cost of $2,000 to $3,000 at the most. Some figures available to the authors and given in Table 1 indicate a total cost of $0.0026 to $0.0227 per barrel treated for the entire operation, including the anti-oxidant. The cost of the anti-oxidant is from 70 per cent to 90 per cent of the total cost. Table 1 shows the details of the gum and induction period tests together with the cost of inhibiting of six commercial gasolines. The figures give the average for a considerable period of operation. In all cases the low pressure cracked gasoline has been treated with an absorbent.

If all gasoline could be finished thus, there would be no problem to discuss. It must be borne in mind that inhibiting involves no loss of gasoline or degradation in quality. Octane number or lead susceptibility is totally unaffected initially. The only precaution which must be taken in the storage of inhibited gasoline—since anti-oxidants as a rule are slightly soluble in water or are attacked by caustic soda and the like—is to avoid loss of inhibitor through contact with these materials. If the proper precautions are taken, depending on the initial tests and the amount of inhibitor added to the gasoline, quality, as regards octane and gum tests, will be maintained for an extended period of time.

Response to Inhibitors

However, it has been noted that certain gasolines have either a limited response to inhibitor or practically no response. In addition certain other gasolines have a sufficiently high dissolved-gum content to make a further refining operation necessary for that reason alone. If the desired quality cannot be achieved by the use of anti-oxidant alone, the use of an absorbent material may

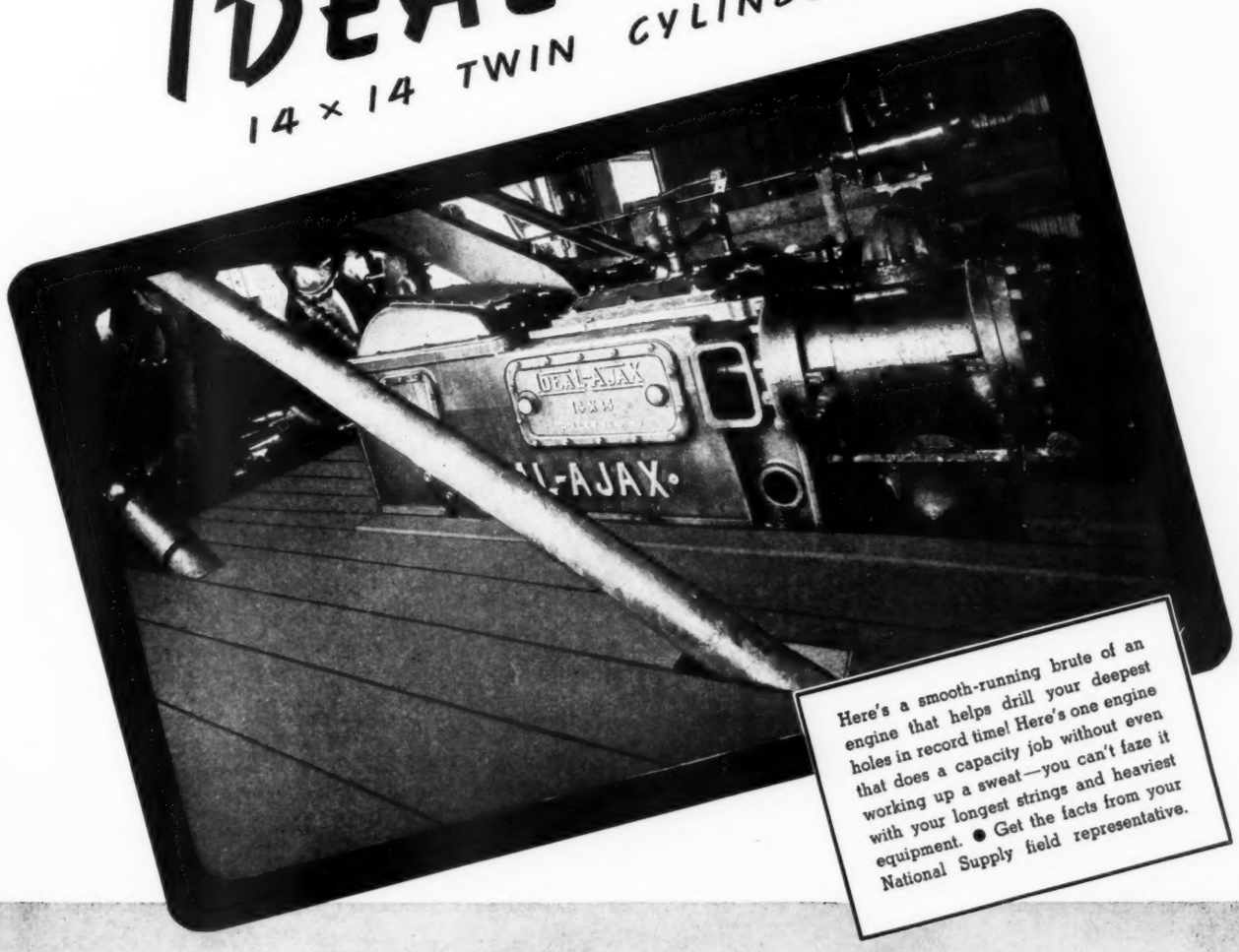


Agitators and gas batch-treating equipment in Standard Oil Co. of Calif., Richmond refinery

DELIVERS MORE POWER THAN ANY OTHER DRILLING ENGINE!

IDEAL AJAX

14 × 14 TWIN CYLINDERS



Here's a smooth-running brute of an engine that helps drill your deepest holes in record time! Here's one engine that does a capacity job without even working up a sweat—you can't faze it with your longest strings and heaviest equipment. ● Get the facts from your National Supply field representative.

Manufactured Exclusively by

AJAX IRON WORKS
CORRY, PENNA.

AJAX ENGINES

AJAX ENGINES

Distributed by

THE NATIONAL SUPPLY COMPANIES
IN EVERY FIELD

either give a gasoline, which, followed by sweetening or washing, is a satisfactory product, or one that can be easily made so by the use of an anti-oxidant. The two better known methods, both normally using fullers earth, are the Gray process and the Osterstrom process. Both depend on selective polymerization for the refining action. The former operates in the vapor phase; the latter in the liquid phase.

The operation of Gray towers is probably familiar to all refiners and where an endpoint gasoline is delivered by a cracking unit, the vapors pass at equilibrium boiling point directly from the final fractionating column through the Gray equipment and after-fractionator, whose purpose is to remove entrained polymer material. This means that the only operating costs involved cover the use of the additional equipment, the renewal of the bed of fullers earth and the royalty. The cost of the equipment[1] will average between $15 to $25 per barrel daily capacity. The paid up royalty is $35 per barrel of daily average production. Some published figures[1] on the operation of a direct connected Gray tower based on the conservative average of 4,000 bbls. per ton of fullers earth indicate a cost of $0.0057 per barrel. From the experience of the authors this figure is high and the average cost on low-sulfur stocks principally of Mid-Continent origin, is from $0.002 to $0.004 per barrel. The operating costs noted are, of course, very important, but more important is the fact that due to the highly selective action of the fullers earth there is no volumetric loss corresponding to that which results by contact with sulfuric acid. A certain amount of the gasoline, from 0.5 to 1.25 per cent of material cracked at superatmospheric pressure, is polymerized outside of the gasoline range and eventually finds its way to fuel oil. But according to the claims of the Gray Processes Corp.[1] this loss is possibly off-set by secondary polymerization of cracked gases to higher boiling material falling within the gasoline range. The further claim is made that there is no discernible decrease in octane value of gasoline by this method of handling. Certainly the experience of the authors would substantiate the claim that this loss on high-pressure cracked gasoline is under one octane by the A.S.T.M. motor method. With low-pressure cracked gasolines of the Gyro type, the operating cost would run higher in proportion to the reduced yield per ton of fullers earth. The loss by polymerization to material outside of the gasoline range may run as high as 3 to 4 per cent.

Interior view of Arkansas-Louisiana Gas Co.'s Munce compressor station in the Monroe gas field, Sterlington, La., consisting of ten 1,000-hp. twin-tandem, double-acting compressors serving that company's transmission line west and north

✣ ✣ ✣ ✣

Osterstrom Process

The use of fullers earth under superatmospheric pressure and at elevated temperatures is known to the industry as the Osterstrom process. The limitation in the use of it is occasioned by the fact that it is necessary to condense the make of a cracking unit, pass it through a tube still under considerable pressure, then through a small bed of fullers earth, after which the material is flashed into a fractionating tower. The latter separates the polymers as the bottoms and gives the treated gasoline as the overhead product. The conditions found most advantageous in the industry are a pressure of from 700 to 1,000 pounds and a temperature of 475° to 575° F. The cost of installation runs from $22 to $40 per barrel daily of material treated. The royalty is the same as that for the Gray process, and the operating cost runs from $0.0225 to $0.040 per barrel. The losses, both as to volumetric reduction in gasoline yields and octane, approximate those obtained under the Gray process. The feature which distinguishes the Osterstrom process and makes it advantageous for use with products difficult to treat, is the fact that the extent of polymerization and thus refinement can be controlled by varying the temperature and/or pressure. Usually the variation of the temperature alone is sufficient to give the desired effect.

There are numerous other catalytic or chemical reagents which are used to treat gasoline for reduction of gum or attainment of other desired qualities. Reference will be found in the literature to the use of numerous catalysts and reagents, but the only one which has achieved commercial importance is the Lachman process employing a concentrated solution of zinc chloride at elevated temperatures. In this process, a 70 to 85 per cent solution of zinc chloride is used at a temperature of from 265° to 410° F., depending on the boiling range of the material undergoing treatment. The solution is sprayed downward through a packed tower and meets the ascending raw vapors. The refining action is apparently catalytic, causing selective polymerization, although some claim is made that with proper control a product not requiring any further treatment for sweetness can be delivered. It is also stated that reduction in sulfur content can be effected. This is reported to reach 30 to 40 per cent[2] of the original sulfur content. The writers do not have any figures available as to installation costs and the only figure as to processing cost is $0.06[3] per barrel on a normal cracked distillate. It is claimed that the solution handling losses in this process is less than 1 per cent and the polymerization loss is from 1 per cent to 3 per cent, depending on the type of material treated—the higher figure presumably applies to "vapor phase" cracked stocks. According to published data the octane value is practically unaffected. By this method of treating, gum, as interpreted by the various methods, is reduced and under certain circumstances practically all mercaptan sulfur removed.

Use of Sulfuric Acid

The use of sulfuric acid for various refining purposes in the petroleum industry is very thoroughly covered in the literature. It was practically the first chemical reagent used in the industry; certainly to any great extent. Where a high sulfur stock is being handled, and it is found necessary to reduce the content, sulfuric acid is still the only reagent which gives reasonably satisfactory results. A great deal of work has been done in developing this process covering the variables of concentration of acid, time and temperature. However, with more normal cracked stocks it is pos-

TABLE 1—DETAIL OF GUM AND INDUCTION PERIOD TESTS AND COST OF INHIBITING

Crude—	Straight-run (per cent)	Low pressure cracked (per cent)	High pressure cracked (per cent)	Casing-head (per cent)	Tests before inhibiting A.S.T.M.	Copper	I.P.		Tests after inhibiting A.S.T.M.	Copper	I.P.	Cost/bbl.
1. 41 per cent Mid-Continent	53.09	37.95	.....	8.96	1.4	35	2.75	Average	1.25	11.2	6.15	$0.0215
59 per cent Pennsylvania	.....	.....	.....	.....	0.2–3.0	10–70	1.5–4	Range	0.2–3.0	7.5–20	6–6.5	
2. 6 per cent Pennsylvania	36.00	16.68	44.54	2.78	0.85	50.5	3.25	Average	0.93	15.7	4.27	0.0026
94 per cent Mid-Continent	.....	.....	.....	.....	0.8–1.2	36–74	3–3.5	Range	0.4–2.0	9–19.5	4–4.6	
3. 100 per cent Mid-Continent	48.76	9.59	27.80	13.85	1.3	53	3.75	Average	1.11	7.2	4.21	0.0054
					0.6–3.0	12–75	3.5–4.0	Range	0.2–2.6	2–11.4	4.0–5.0	
4. 38.5 per cent Corning	46.44	22.97	24.84	5.75	0.76	64	3.52	Average	0.63	10.6	5.61	0.0123
61.5 per cent Mid-Continent	.....	.....	.....	.....	0.4–1.6	21–127	3.0–4.75	Range	0.4–1.0	8–15	5.2–6.3	
5. 56 per cent Mid-Continent	37.78	34.91	27.28	0.03	1.92	13.9	3.49	Average	0.85	9.8	4.78	0.0060
44 per cent Michigan	.....	.....	.....	.....	0.5–2.0	9–20	2–4.5	Range	0.0–2.2	2.6–13.9	4.3–6.0	
6. 88.6 per cent Mid-Continent	48.32	4.00	47.65	0.03	1.31	34.7	3.0	Average	1.66	9.4	6.38	0.0227
11.4 per cent Gulf Coast	.....	.....	.....	.....	0.4–3.2	12–58.5	2–3.75	Range	0.8–2.6	4.4–13	5.25–6.75	

GUMBO BUSTER

(JOHNSTON)

26-inch, Oil Bath, Roller Bearing Rotary

• The GUMBO BUSTER 26-inch Rotary contains many advanced features never before incorporated in a rotary. Designed to stand the most severe drilling conditions with a minimum of care and attention, it is guaranteed to drill an unlimited amount of footage when kept properly oiled.

• This Rotary is made entirely of steel. Not one piece of cast iron or semi-steel is used in its construction.

• Lubricated like a fine automobile, the Pinion Shaft Roller Bearings, Gear Ring, Pinion, Table Bearings and Hold Down Ring are enclosed in a dust proof, oil tight enclosure and operate in a bath of oil.

• Construction features include: Table made of Chrome Nickel Steel. Fully enclosed, Alemite lubricated Pinion Shaft Roller Bearings. Bearing Boxes cast integral with front half of bed plate, both Boxes machined at one operation, eliminating box bolts and shims and assuring perfect alignment of Bearings and perfect contact of Pinion Teeth with Gear Ring Teeth. Cone Roller Table Bearings operate in oil. Bed Plate, cast electric steel. Master Bushings, Chrome Nickel Steel. Drive Bushings, Manganese Steel. Pinion Shaft Sprocket, solid Chrome Nickel Steel casting. Sproket, 15-tooth, Chrome Nickel Steel, split type, with key integral part of Sprocket.

• Prices and complete specifications on application.

Manufactured by

The AMERICAN WELL AND PROSPECTING COMPANY

Corsicana, Texas

Distributed From Convenient Stocks By

BRIDGEPORT

The BRIDGEPORT MACHINE COMPANY

Manufacturers and Distributors of

OIL FIELD EQUIPMENT

Factory and General Offices

WICHITA, KANSAS

WILD GASSER KILLED IN RECORD TIME WITH BAROID

Photo courtesy C. J. Belden, Pitchfork, Wyo.

ABOVE: "Big Bill" Phillips of Casper, Wyoming, a BAROID Engineer, tests the slurry at the well with his laboratory-equipped service car.

BELOW: Crew mixing BAROID mud.

Photo courtesy C. J. Belden, Pitchfork, Wyo.

ONE OF WORST WELLS IN OIL HISTORY MUDDED IN 11 MINUTES PUMPING

After blowing wild for over a year, since January 1936, Stock Oil Company's No. 1 Allen in the Garland field, Wyoming, was killed recently with BAROID and cement *in record time*. This wild gasser, which burned two rigs, involved the drilling of three relief wells, and resisted previous efforts to kill it, put modern mudding and cementing materials to their greatest test—but it was killed with BAROID mud in eleven minutes pumping!

A total of 2100 sacks of BAROID, 4000 sacks of cement, and 2000 barrels of drilling mud were pumped into the hole under the direction of Paul Stock of the Stock Oil Company and H. P. McKay, his superintendent, using Perkins cementing equipment.

The problem of killing No. 1 Allen involved pumping-in a heavy enough fluid rapidly enough to build up sufficient hydrostatic head to confine the gas to its formation. This was accomplished successfully with BAROID weighing 19 pounds per gallon (142.5 pounds per cubic foot). BAROID scores again in killing one of the worst wild wells in oil history.

BAROID is used by experienced operators *everywhere* for quicker, safer, more economical drilling. There's a BAROID Service Engineer near *you*. He'll be glad to test your mud and help you with your drilling mud problems.

BAROID PRODUCTS

BAROID-Extra-Heavy Colloidal Drilling Mud. • AQUAGEL Trouble-Proof Colloidal Drilling Mud. • STABILITE—An Improved Chemical Mud Thinner. • BAROCO—An Economical, Salt Water-Resisting Drilling Clay. • FIBROTEX—For Preventing or Regaining Lost Circulation in Drilling Wells.

Stocks carried and service engineers available in all active oil fields

BAROID SALES DEPARTMENT

NATIONAL PIGMENTS & CHEMICAL DIVISION OF
NATIONAL LEAD COMPANY
BAROID SALES OFFICES • LOS ANGELES • TULSA • HOUSTON

sible to use processes previously mentioned in this paper and it is on the basis of such stocks that the following discussion is based.

In acid treating low-sulfur gasoline, one may use either the traditional batch or continuous treater. The former type of equipment, of course, gives excessive losses and its use in the industry has been practically eliminated for this purpose. For better control the Stratford process[4] has been developed, which, by the use of centrifuge equipment, gives closer control on time of contact and separation of sludge. The Halloran process, well known on the western coast, is particularly applicable to high-sulfur gasolines. For this reason the higher installation and operating costs are not included in our figures.

In all acid treating of gasoline and particularly in the handling of cracked stocks the treated material must be rerun on some type of distillation equipment to give a finished product. In some cases greater economy is obtained by separating by fractionation the lighter ends not requiring treatment. This reduces the quantity of material acid treated and rerun. Equipment for acid treating gasoline costs from $15 to $30 per barrel daily capacity. Redistillation equipment will range from $35 to $50 per barrel daily capacity. The treating cost will run from $0.025 to $0.045 per barrel. Depending on the quantity and strength of acid used, the volumetric or solution loss in treating will run from 1.5 to 2.5 per cent, and the polymerization loss from 1 to 2 per cent. The reduction in octane value of finished gasoline will be on the average of from 2 to 3 octanes by the C.F.R. motor method and the increase in tetraethyl lead requirement is from 0.2 to 0.5 cc. per gallon.

The refining steps described above are chiefly for the purpose of reducing gum, stabilizing the qualities of the product under treatment, or improving color. As mentioned above, the matter of delivering a so-called sweet product is considered an important part of refining gasoline. The question of sweetening is considered by itself in order to facilitate a direct comparison of costs and losses even though in acid treating the treatment for reduction of gum and stabilization of properties may be combined with the sweetening process.

Doctor Sweetening

Traditionally, gasoline is sweetened by the use of sodium plumbite solution and sulfur. In spite of advances made in the art, probably most of the sweetened gasoline sold in this country is still processed by the use of these reagents. Continuous equipment for doctor sweetening will cost from $10 to $20 per barrel daily capacity of material handled. Some figures available to the authors indicate a total sweetening cost of from $0.0082 to $0.0216 per barrel. This covers a multiplicity of stocks, mainly of Mid-Continent origin but including some Gulf Coast, Ohio and Michigan crudes. For the straightrun gasolines the chemical cost varies from $0.0011 to $0.0116 per barrel. For low-pressure cracked gasoline the chemical cost runs from $0.0017 to $0.0109 per barrel, and on the high-pressure cracked gasoline from $0.0017 to $0.0124 per barrel. The range of volumetric loss in the process is from 0.1 to 0.75 per cent and the average is very close to .25 per cent. Degradation of quality has not been sufficiently accentuated as regards sweetening until recently. It is now apparent that as much as 3 octanes may be lost with an increased tetraethyl lead consumption of .4 cc. per gallon of gasoline. The value of precaustic washing in the sweetening process to effect the complete removal of mercaptans and thus minimize the octane loss and increased consumption of tetraethyl lead is discussed by Doctor Rippie.[5]

If gasoline is caustic washed rather than sweetened, it is estimated that a savings in chemical cost of from 70 to 90 per cent and a reduction of around 50 per cent in processing cost would result. And, since there is no degradation of octane value, the increased tetraethyl lead requirement noted above is automatically eliminated. Another important consideration is the effect of excess sulfur left in gasoline by doctor sweetening on increasing antioxidant requirements. However, since under proper conditions as described a satisfactory product can be made by the proper selection or combination of these processes followed by washing with caustic soda solution, the authors find it difficult to justify doctor sweetening by any process. Considering the almost complete elimination of contact of the motorist with the odor of the gasoline he is using and the debatable nature of this quality, it hardly makes a reasonable or substantial standard on which to base a refining process.

Bibliography

1. Mandelbaum and Swanson, National Petroleum News, December 9, 1936.
2. Arthur Lachman, Chem. and Met., August, 1935.
3. A. L. Foster, National Petroleum News, January 25, 1936.
4. Cook & Hayford, World Petroleum, April, 1934.
5. Presented at meeting W.P.R.A., Hot Springs, Ark., April, 1937.

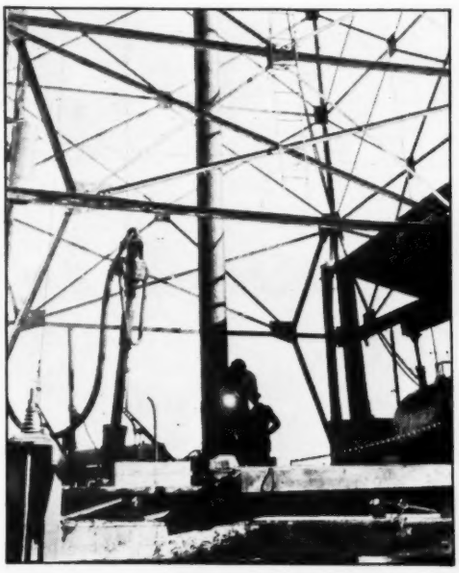
Use of Light-Weight Surface Casing in Mid-Continent

By L. S. ALLEN
National Tank Co.

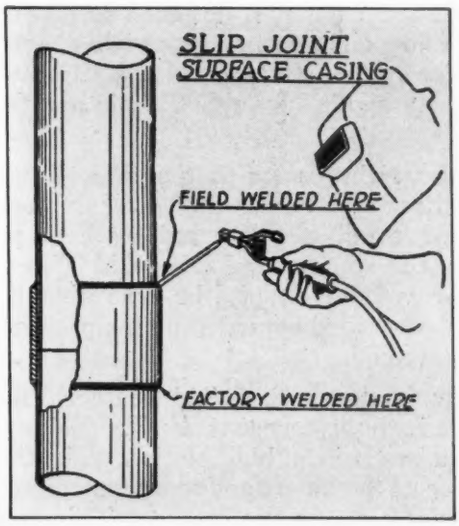
Recently there has been a marked increase in the use of light-weight welded surface casing. While it has been adopted widely in the Mid-Continent area, it has been most conspicuous in the Hays, Albert, Russell, Chase and Burrton fields of Kansas, in the Borger, Wink, Odessa, Sunray and Pampa fields of Texas as well as in the Hobbs and Jal fields of New Mexico. The practice has expanded in the Mid-Continent as the result of initial successes in the East Texas and Louisiana areas and along the Gulf and Pacific coasts.

Although the practice of welding casing is not new to the oil industry, the use of light-weight welded casing has become known only during the past three years. The savings due to the lightness of the pipe and the improvements in welding technique have combined to effect its use. The conventional practice has been to use standard-weight pipe for surface casing, regardless of the length of the string to be set. By the introduction of light-weight pipe it has been possible to select a wall thickness adapted to the requirements of different length strings. With the use of rotary drilling where, in most cases, the surface casing is cemented from top to bottom and the pipe never reclaimed, it seemed that a lighter-weight casing could be used. The wall thickness selected for welded surface casing depends principally upon the length of open hole to be drilled before setting the next string of casing.

Economies to be obtained, as the result of increasing the speed and improving the technique of welding have been an important item in this change to thinner-walled pipe for casing. Even before its use became generally recognized, however, some operators spot-welded the threaded and coupled casing for safety's sake. Economies amounting to as much as 37 per cent are often obtained in running a string of light-weight welded casing, depending upon the thickness needed, for casing is available up to a wall thickness of one-half inch. Within the past year major oil companies have run many thousands of feet of light-weight casing with welded joints in sizes from 10¾ inches up to and including 24½-inch.

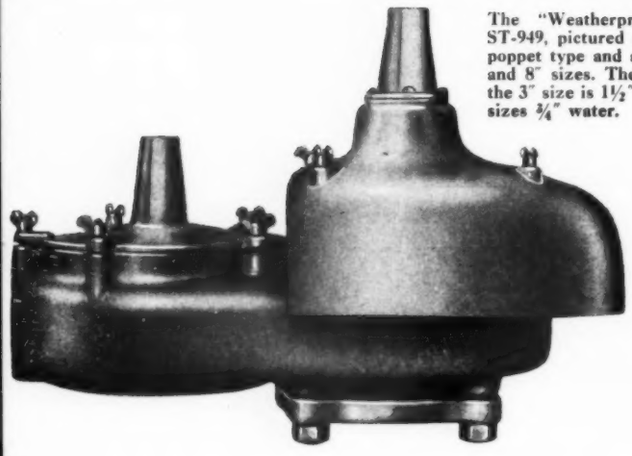


Welding a string of light-weight surface casing at a Mid-Continent well

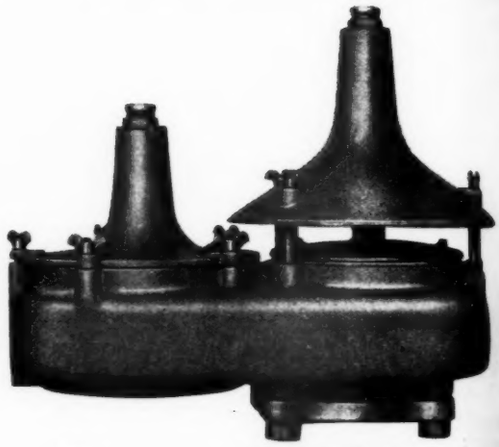


In the making up of a string of light-weight welded surface casing, the slip joint offers considerable economies. One company ran 660 feet of 13-inch, 35-pound pipe of slip-joint type, with a total welding cost of only $20. The welding was done with two welders working together in welding the joint; the average time taken in welding a joint was seven minutes. In conclusion it may be stated that the use of light-weight surface casing with welded joints has been steadily increasing. Since the first of the year more than 60,000 feet of this has been run in wells in the Mid-Continent area alone.

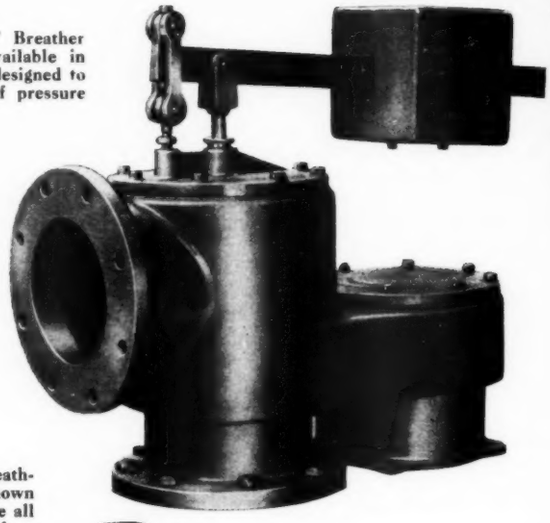
S&J Breather Valves
for High or Low Pressure Storage



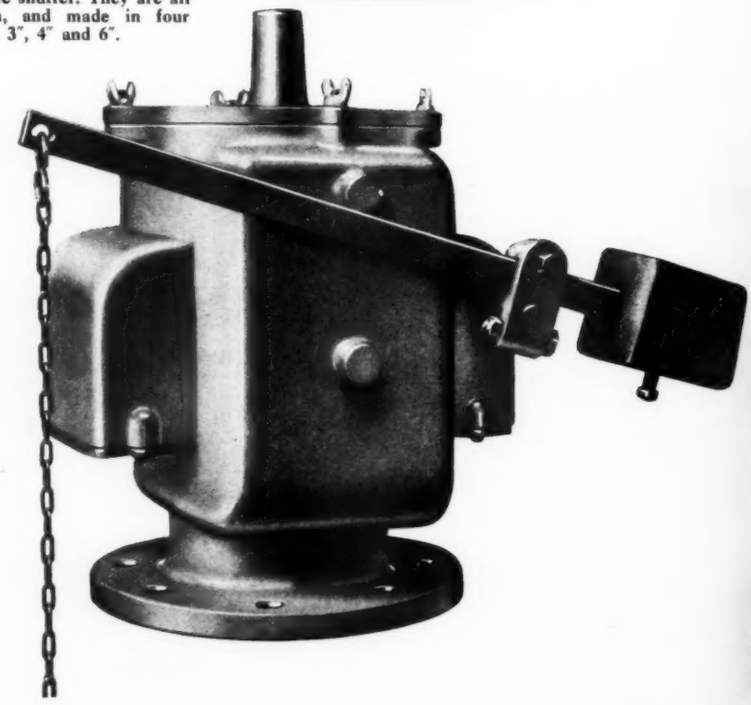
The "Weatherproof" Breather Fig. ST-949, pictured at the left, is of the poppet type and available in 3", 4", 6" and 8" sizes. The standard loading of the 3" size is 1½" water and the larger sizes ¾" water.



The "Full Flow" Breather at the right is made in poppet and mercury seal types, the former identified as Fig. ST-310 P and the latter as ST-310 M. The poppet type is available in 3", 4", 6" and 8" sizes and the mercury seal type in 4", 6" and 8" sizes.



Valve S & J "Still Type" Breather Valve, Fig. ST-1004, is available in 3", 4", 6" and 8" sizes and designed to operate on a wide range of pressure and vacuum settings.



Below is the "Allclime" Breather Valve Fig. ST-432, shown with flame snuffer. They are all aluminum, and made in four sizes: 2", 3", 4" and 6".

Illustrated here are four different types of S & J Breather Valves, each one especially designed to meet specific operating conditions.

Illustrated above is the S & J Weatherproof Breather Valve, designed for maximum flow capacity, and for operation in regions affected by snow, sleet and ice. This valve is hooded, with openings screened to exclude insects and birds.

The S & J "Full Flow" breather valve shown at the top right was designed to give a maximum flow on tanks in regions where snow, sleet and ice are not a menace. These valves are particularly applicable in California and Southern States.

At the right center is the S & J still type breather valve designed to meet the newer operating conditions imposed by high pressure storage in spheres and spheroids. This valve is of the weighted type, the operating pressure being controlled by adjusting the position of the counterweight.

Below is the S & J "Allweather" Breather Valve for bulk storage tanks. This valve was designed to give the bulk station tanks the same service as the larger and more expensive valves provide for refinery storage. This is an all aluminum valve, built and priced to make it attractive to the bulk station operator.

SHAND & JURS CO.
BERKELEY, CALIFORNIA

295 Madison Avenue
New York

225 W. 11th Street,
Los Angeles

601 Fannin Street,
Houston

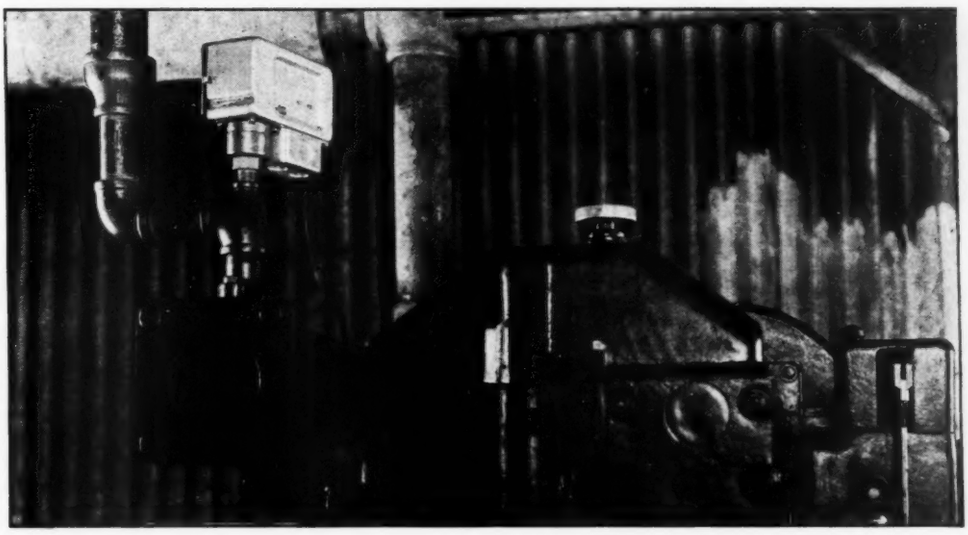
SHAND & JURS

OPERATING IDEAS

Standardized Pipe Lengths

Modern rotary practice has become so standardized that every move made in setting up equipment at location or in taking it down for movement to another location has been carefully worked out in advance. Like the modern circus there is no lost motion in setting up

or tearing down equipment and every piece of machinery has its particular place. This has permitted the pipe and fittings to be predetermined as to length and character. The accompanying picture shows a portion of the steam piping for a rotary rig gathered together and for convenience placed in a welded pipe runway preparatory to loading.

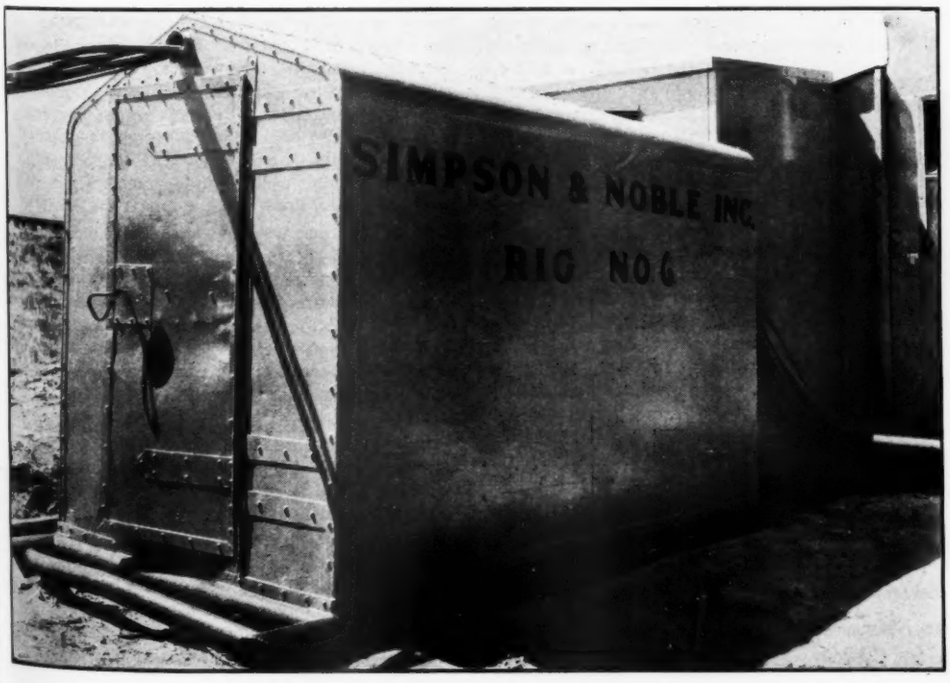


Safety Switch on Pumping Power Engine

A major oil company operating pumping powers in the Olympic pool near Wewoka, Okla., has installed automatic electric switches on the ignition of the four-cylinder gas engine so that if the temperature raises to the danger point the ignition is cut off. This eliminates the chance of overheating the engine if there is improper circulation of water through the cooling system.

Tool House and Control Switches Mounted on Skid

One drilling contractor operating gas-electric drilling equipment in western Kansas has adopted the practice of having the control switches and tool house mounted on one skid. The transmission cable is suspended from the top section of the tool house as shown in the accompanying photograph. When the rig is in transit, the cable is placed inside the house thus giving better protection to the cable and simplifying the moving of the equipment to new locations.

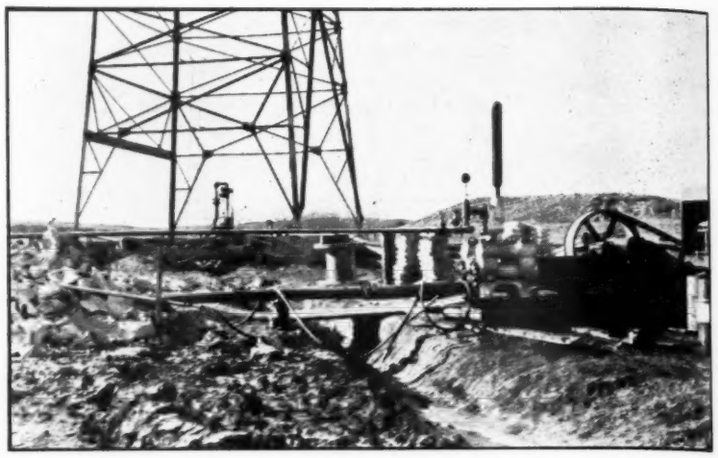


Rubber Hose Replaces Piping

A drilling contractor operating a diesel-electric drilling rig near Cromwell, Okla., has adopted the practice of using rubber hose for all cooling lines from the cooling tower to the engines. The operator's experience has been that the hose serves as well as piping and that considerable time is saved in rigging up due to the ease of connecting the engines to the cooling tower. The tower is equipped with permanent pipe fixtures to facilitate connecting the hose, thus all that is necessary in rigging up is to couple the hose to the pipe.

Wild Well Brought Under Control After Two Failures

By PAUL REED



To stop cratering an engine-driven pump capable of pumping 250 bbls. of mud per hour was required for delivering sufficient volume

At the first attempt to kill Helmerich & Payne and others No. 1 Graham, a wildcat 20 miles southeast of Marlow, Okla., results were obtained so readily that there was no suspicion that cratering would follow which would require a second killing operation with more equipment and more attention. The well was drilled under contract for the Wren & Leard Oil Co. in section 12, Township 1n, Range 5w, near Doyle. Rigging up started on February 15. On March 15, the terms of the 5,000-foot contract had been complied with by drilling a 9-inch hole to a depth of 5,012 feet. The hole was filled with 10-pound mud from top to bottom and the rig was moved out on March 17. At that time Helmerich & Payne, Inc., men say, that the owners were considering drilling at a later date to a depth of 7,500 feet and efforts were made to leave the hole in good shape. A plate had been welded across the top of the 91 feet of surface casing and a valve connection had been welded into the side of the surface casing.

Seventeen days after moving the rig, farmers telephoned in on April 3 that the well was "blowing wild." It was found that the valve had been broken, possibly by freezing, and the well was flowing 20,000,000 feet of gas and 5,000 bbls. of water. Two days were taken to hook-up during which time a connection was made to the surface pipe, a 30-foot joint of 7-inch pipe with a 7-inch gate and a saddle on the surface pipe being used. A Halliburton cement truck made connection with its 2-inch line swaged to the 7-inch. During the first attempt to kill the well, a mixture consisting of mud from the pit, water, and Baroid, with a weight of 14 to 15 pounds was pumped into the well for four days. In this time several pits of mud were used. The highest pressure reached was 350 pounds. At the end of four days the well was dead. The valve on the surface pipe connection was closed and the cementing equipment was removed.

Well Begins Cratering

Two days later farmers telephoned again announcing that the well was cratering. It was found that mud, water, and gas were flowing from a hole in the ground near a creek more than 600 feet from the well. On resuming operations at the well, steps were taken to prevent the mud from going downstream and the stream was dammed at several points. Halliburton equipment was again moved in and an attempt was made to kill the well with an 18-pound mixture of weight material and water. In doing this, two 500-bag batches were used. As a result the flow of gas was cut down to 5,000,000 feet but the flow of water continued about the same.

After a day of this attempt, it was recognized that equipment capable of handling a larger volume was needed. A 16 by 6 Wilson-Snyder pump, driven by a 125-hp. engine was moved in; 2½-inch tubing was run through an Otis head. Before installing the head, the 12-foot nipple originally at the top of the surface casing was removed and replaced with another nipple equipped with a blowout preventer and head. Every hundred feet or so as the tubing was run in the hole, 10 to 15 bbls. of water were pumped through the tubing to insure that it was not obstructed. In a test at 600 feet, gas flowed through the tubing. At 650 feet a bridge was encountered and another test was made during which there was no flow of gas.

Fourteen hours were spent in mixing 1,000 bbls. of 16.2-pound mud containing 40 bags of Aquagel, 2,000 bags of Baroid, and 50 bales of Fibrotex. In doing this six pressure-guns were used. It was dark when mixing was completed and mud was not pumped into the well until the next day. Preparatory to pumping mud into the hole, the pits were given another gunning. Final tests of the mud showed the weight to be 16.2 pounds per gallon, viscosity 60 centipoises, and a pH of 8.9. Connection was made to the tubing and the valve on the 7-inch pipe pinched in.

On April 15 mud was pumped into the well at the rate of 250 bbls. per hour. Within two hours after pumping the crater was dead and two hours later the well was killed. This indicated that the fibrous material in the mud had bridged off cracks, crevices, and fissures leading to the crater which enabled the gel-type colloid to seal over the bridge thus formed by the fiber. After the well and crater had been killed it was not possible to get circulation to the top of the ground.

Weight of Mud Used

A shipment of 300 bags of Baroid, 25 bags of Aquagel, and 15 bales of Fibrotex was sent to the well and another batch of mud was made up to the amount of 300 bbls. from these materials and old mud in the pits. The weight of this batch was 15.2 pounds. This was pumped in and circulation was established. After circulating eight hours the mud was tested and found to weigh 14.2 pounds with no signs of gas or water cutting. In this last effort to kill the well, pumping continued for 13 hours and was finally discontinued on April 16.

Since the mud was settling in the hole, due to a slight filtering action of sand formations, a practice was adopted of circulating for 15 minutes every 4 hours. It was found that return circulation was obtained within four minutes after pumping began. This practice has been discontinued since then. For the present a man is kept at the well night and day to insure safety to all parties concerned.

Supervision of killing was directed by C. R. Copeland and O. D. Williams, of Helmerich & Payne, Inc., and D. A. Sikes and Amos A. Roberts, of Baroid Sales Co.

It is believed by those responsible for the well that a water and gas sand between 600 and 650 feet had become charged with gas from a deeper formation, probably near a depth of 3,700 feet. Cores of sand were taken in drilling the well at 3,719-29 feet which showed signs of gas.

Hose connection for pumping mud and fiber into Helmerich & Payne, Inc., No. 1 Graham, southeast of Marlow, Okla.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Significance of the Properties Specified for Fuel Oil

What is the meaning of the several requirements given in the specifications for fuel oils?—L. D. W.

The term fuel oils may cover material ranging from residues through distillates up to and including kerosene. The properties desired for a particular oil, or group of oils, depend upon the special use to be made of the oil. The American Society for Testing Materials, Tentative Specifications, mention six types of fuel oil; the classification being made according to the burning equipment. These grades may be required to meet a minimum of three requirements; flashpoint, water and sediment, and viscosity, or a maximum of eight; flashpoint — minimum and maximum; pourpoint, water and sediment, carbon residue, ash, distillation—10-90 and endpoint; viscosity; sulfur. Diesel fuels and fuel oils for the U. S. Navy may have to meet six additional requirements, firepoint, diesel index, gravity, cetane number, sediment by extraction and sediment by extraction after refluxing.

Flash- and firepoints very frequently are considered as an index of fire hazard but may also serve as an indication of volatility or to assist in the classification and identification of oils. The flashpoint should not fall below 150° F. Pourpoint may be supposed to give an indication of the temperature below which the oil cannot be handled through pumps and lines. Much more reliable information is the flowing rate at some specified temperature through a pipe of definite size under a selected head or pressure.

The diesel index, calculated from A.P.I. gravity and aniline point, may serve to classify fuel oils but does not appear to have a value as related to any indication of engine performance. The D.I. usually runs from 20 to 45 as a minimum number for the several grades of fuel oil.

Gravity A.P.I. is a definite indication of weight, since any value may be readily converted to specific gravity and to pounds per gallon or any volume. It is a very valuable guide to ignition quality when considered with viscosity. Gravity of fuel oils may vary from 10° or below, to 45° A.P.I.

Water and sediment, by centrifuge of benzol mixture, is usually confined to a maximum total of 2 per cent, with water and sediment 1 per cent each, although some fuel oils should not contain above 0.25 per cent water. A small quantity of water will cause stoppage of fine screens and fabric filters. Solid materials cause clogging of screens, valves, etc.

Carbon residue, the residue remaining after heating in absence of air, may indicate the tendency of the oil to produce carbonaceous deposits in the combustion chambers of an engine. Where the conditions of burning equipment, or the engine, are favorable for the deposition of a residue the carbon residue percentage is important. The better grades of fuel oil have a carbon residue maximum limit of 0.2 per cent but some of the heavy oils may contain up to 15 per cent.

Cetane number for indicating ignition quality, obtained by engine test by trial, similar to octane rating, is at present an uncertain value. Cetane numbers of fuel oils now available are usually above 40 but a minimum of 50 is sometimes specified.

Ash, the residue remaining after ignition in air, should not be present in an oil above a trace. A high quality oil should not show more than 0.01 per cent and a common limit for ordinary fuel oil is 0.10 per cent.

Sediment after refluxing with benzol, also direct extraction, gives information covering insolubles and suspended matter. The data obtained are related to, water and sediment, ash and carbon residue. Sediment in a fuel oil, by extraction after refluxing should not exceed 0.12 per cent.

Distillation requirements for fuel are not for general use. They do not appear to be of any value, except under very special conditions. Diesel fuel oil for the U. S. Navy may be required to have a maximum of 90 per cent distillation temperature of 675° F.

Viscosity is important but the requirement should always consider the conditions of use. Diesel fuels, high grade, for Navy use are limited to 35-45 Saybolt at 100° F. Heavy oils may run 300 Furol at 122° F.

Sulfur per cent is intended to limit corroding tendencies, either through the formation of acids, sulfides or free sulfur. The importance of a sulfur requirement for fuel oils may be questioned. The normal wear of equipment and engine parts is probably independent of sulfur content of the oil. If the exhaust system is cool, or abnormally low jacket temperatures exist, there may be corrosion due to the sulfur content of the oil. The maximum limit is frequently 2 per cent.

References: Barton, Jour. Instn. Petrol, Tech., 22, 508, 1936. Wilson and Barnard, 4th Proc. A.S.T.M. 28, Pt. II, 1928.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired postage should be enclosed.

CHEMICALS FOR THE PETROLEUM INDUSTRY

ACIDLESS TALLOW OIL

Use—Grease making.

Form—Soft solid.

LIMITATIONS

Acidity, as oleic, per cent max	1.05
Saponification No., min.	190
Color A.S.T.M., max.	2½
Solidification point, °F., max.	50
Flash, open, min., °F.	600

Odor—free from rancid or objectionable.

Note—Tallow is a clear yellow fat having a melting point not less than 110° F. It may contain up to 5 per cent free fatty acids calculated as oleic.

Improving the Color and Odor of Gasoline and Kerosene

We have recently run into some difficulty on color for both gasoline and kerosene. These have a strange odor, somewhat similar to onions, and the color is yellowish. The raw distillates were acid-treated before sweetening. Can you suggest any way of improving this condition?—O. T. M.

Enough details have not been furnished to make clear the real source of the color, etc. The difficulty may be due to the oil recently found in your section. Some oils contain nitrogen compounds that are a source of both color-forming substances and compounds that have a very objectionable odor. There are also certain sulfur compounds, fortunately quite rarely present in petroleum, that are very difficult to remove by the better known treating methods, that cause poor color and odor, the thiophenes being an example.

Redistillation in the presence of soap-powders, ammonia or methanol, has been practiced, and each one has produced a very satisfactory product.

A gasoline from Esthonian shale has been reported in the Library Bulletin of Abstracts as having an odor similar to that of onions. This is caused not only by the unsaturated compounds present but also by variable sulfur compounds not easily removed completely. The unsaturated compounds form a dark yellow deposit, especially in storage. Under the influence of heat, air and light, this becomes a thick yellow resin which is a principal carrier of the odor. Stabilizing by adding small quantities of hydroquinone or similar agent retards the resin formation but does not prevent it.

If the usual method of treating is supplemented by adding some methanol to the sulfuric acid, the odoriferous fractions in the gasoline become water-soluble and are easily washed out. The gasoline becomes water-white and the odor is no longer unpleasant or noticeable. Instead of methanol, other aldehydes or other suitable substances may be used if they form compounds with the gasoline that can be washed out. For example, adding 0.4 per cent of 40 per cent formalin and some 70 per cent sulfuric acid will remove the odor from a previously refined gasoline.

Reference: Henry von Winkler, Library Bulletin of Abstracts, Jan. 4, 1933, p. 1; from Chem. Zeit, Dec. 14, 1932, p. 991.

Octane Rating Has No Relation to Either Gravity A.P.I. or Specific

Our specifications are usually expressed according to the octane rating of gasoline while in France when buying gasoline specific gravity or Baume are used. Essence Tourisme for instance, has a specific gravity 0.715-0.725 or 65.8-63.1° Be. With what octane rating does this correspond?—W. R. L.

Octane rating is an indication of a specific property which is in no way related to gravity. The significance of octane numbers and the method for determining octane rating have been described in The Oil and Gas Journal many times; a recent reference is the issue of June 11, 1936, page 61.

Gasolines of the gravities mentioned usually have an octane number of 70 or better.

PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Calculating Action of Gas-Cut Mud

I know that "gas-cut" drilling fluid means that gas has been mixed with the mud in a drilling well and its weight reduced. I am interested to learn if there is any way of making an estimate of the reduction to be expected by the mixing of gas with drilling fluid.—G. T. S.

There are various means of calculating the effect of gas mixing with drilling fluid and one method has been described at some length by Charles B. Carpenter in I.C. 6938, U. S. Bureau of Mines circular on "Some Causes of Blowouts During Drilling and Means of Prevention with Special Reference to the Gulf Coast Region."

In a paragraph dealing with "Gas-Cut" drilling fluid, Mr. Carpenter states, "Gas can be intermixed with drilling fluid by simple mixture, absorption or solution of the gas in the drilling fluid, and adsorption on the surface of, or in the pores of, the solids in the drilling fluid. Drilling fluids of high viscosity ordinarily tend to become gas cut; they release the entrained gas slowly in the ditches or at the surface and unless properly aerated may be recirculated in the well while subnormal in weight. By maintaining a drilling fluid of low viscosity, admixed gas can be released, usually by vibrating screens or by allowing the drilling fluid to flow over baffles or in a thin layer through the ditches and slushpits. The drilling fluid also may be pumped through nozzles or sprays to aerate it and at the same time mix it more thoroughly. When the intermixture of gas and drilling fluid is due to adsorption, frequent replacement of the gas-cut drilling fluid with fresh drilling fluid is necessary.

"The greatest danger in circulating a highly viscous drilling fluid is the tendency of such fluids to become lightened by 'gas cutting.' Free gas in the voids of the rock being drilled becomes mixed with the drilling fluid as the bit penetrates gas-bearing strata, and the gas displaces its equivalent volume of drilling fluid. The volume displaced depends upon the porosity of the rock and the formation pressure. For example, in drilling a 9-inch diameter hole through gas sand having a porosity of 25 per cent, each foot of hole drilled will contain a pore space or total voids of $0.441 \times 1.0 \times 0.25 = 0.1102$ cubic foot. If the pore space is filled with gas at a formation pressure of 2,100 pounds per square inch (143 atmospheres) the gas will expand to 143 times its volume, or to 15.57 cubic feet when brought to the surface. The quantity of drilling fluid displaced by the gas depends upon the rate of circulation of the drilling fluid. If drilling progresses in a 9-inch hole at the rate of one-half foot per minute the drilling fluid is circulated at the rate of 150 gallons per minute, every 150 gallons of drilling fluid will contain $\frac{15.57}{2}$ or 7.88 cubic feet of gas. In other words, each cubic foot of gas will be mixed with $\frac{150}{7.88}$ or 19.03 gallons of drilling fluid. Disregarding the weight of the gas, 19.03 gallons of drilling fluid weighing 9.25 pounds per gallon and containing 1 cubic foot (7.5 gallons) of gas will weigh 176 pounds and occupy a volume of 19.03 + 7.5, or 26.53 gallons at the surface. Each gallon of the gas-cut mud, therefore, will weigh $\frac{176}{26.53}$ or 6.63 pounds—2.62 pounds less per gallon than the uncontaminated drilling fluid. Since the drilling fluid is assumed to weigh 9.25 pounds per gallon as it is pumped from the drill pipe at the bottom of the hole and 6.63 pounds per gallon when it returns to the surface, the average weight throughout the column is $\frac{9.25 + 6.63}{2}$ or 7.94 pounds per gallon. In this example a blowout would result, because the formation pressure is 2,100 pounds per square inch, whereas the pressure exerted by a 5,000-foot column of drilling fluid weighing 7.94 pounds per gallon is $\frac{7.94}{8.33} \times 0.434 \times 5{,}000$, or 2,068 pounds per square inch. If the drilling fluid had weighed 10 instead of 9.25 pounds per gallon, the pressure exerted by a 5,000-foot column of gas-cut drilling fluid (by the same method of calculation) would have been 2,235 pounds per square inch, or 135 pounds per square inch more than the formation pressure, and a blowout would have been averted providing the gas was released from the drilling fluid at the surface."

Oil in Hole After Shot

After shooting some of our wells the oil will rise to within a couple of hundred feet of the top of the casing, but on standing afterward and being pumped off, it does not ever seem to come up as high after the shot. I do not understand this and wonder if you can give an explanation?—J. P. C.

This is an interesting problem and it seems probable that the oil in the hole when the shot is exploded and immediately thereafter is forced to occupy the upper portion of the well because of debris in the bottom of the hole.

Not knowing the size of the hole it is assumed for the purpose of illustration that it is equal to 6⅝-inch 20-pound casing before the shot and equivalent to 12-inch 40-pound casing after the shot. It requires only 3.554 bbls. of fluid to fill 100 feet of 6⅝-inch 20-pound casing, whereas it requires 12.589 bbls. of fluid to fill the 100 feet of 12-inch.

From this illustration it is easy to see that the same quantity of oil up in the 6⅝-inch hole will fill about three and one-half times as many linear feet of space as the same quantity in the larger hole. It therefore follows that immediately after the shot the bottom of the hole is full of debris and this forces the oil up into the smaller diameter hole and the fluid level is higher.

Your only correct check would be to ascertain the volume of oil removed immediately after the shot and then compare it with the volume secured after the hole has been cleaned.

There is one other condition which might be considered. If there is oil in the hole when the shot is exploded this oil would tend to travel upward. It is also possible for some of the formation loosened by the shot to be forced up into the hole and form a tight bridge and in this way the oil would be retained in the small diameter hole and might give a false fluid level. This condition can be checked by the driller when cleaning out. If a tight bridge is encountered it could be considered the bottom of the hole immediately after the shot and then the volume of oil recovered after the shot could be checked against the quantity which could be retained in the hole above the bridge.

Heat Producing Chemicals to Remove Paraffin

Can you tell me whether paraffin deposits in wells producing from a sand formation can be successfully removed by the use of a heat producing chemical mixture? —L. H. F.

For information concerning paraffin and congealing oil problems you are referred to U. S. Bureau of Mines Bulletin 346 which may be obtained from the U. S. Government Printing Office, Washington, D. C., for 55 cents per copy. This is a very complete bulletin of this subject prepared by C. E. Reistle, Jr., and O. C. Blade and in it the following will be found regarding "Chemicals."

"There are two types of chemicals available to the industry for combating paraffin troubles. The one in which the chemical is supposed to prevent the deposition of paraffin, or increase the solubility of paraffin, has no particular value unless added continuously to treat the oil that is flowing into the well.

"The second group of chemicals includes those at generate heat due to a chemical reaction that takes place in the well when water is added or when different chemicals are mixed, and they are of value for removing paraffin under certain conditions. A number of chemical compounds can be used to generate heat in oil wells, and several different ones are on the market for removing paraffin. The most important of these compounds consist of lye and aluminum filings which when mixed with water react violently, oxidizing the aluminum and generating approximately 700 B.t.u. per pound of lye and aluminum used. One advantage of using the lye and aluminum compound is that the products of the reaction are liquid and strongly alkaline and will not damage the sand.

"Enough chemicals should be used to raise the temperature of the oil to 140 to 160° F. If the aluminum-lye compounds are used, 1 pound of chemicals will generate 700 B.t.u., which will raise the temperature of 1 bbl. of oil approximately 5° F. If the sand temperature is 100° F. it will require enough chemical to heat the oil about 60° F., or approximately 12 pounds per barrel of oil in the well, not taking into consideration the radiation or loss of heat to the sand, which will consume at least 50 per cent of the heat generated, making it necessary to use at least 18 pounds of chemicals for each barrel of oil in the well. If there are 5 bbls. of oil in the hole in the sand 90 pounds of chemicals should be used. The requirements vary with the temperature of the sand. Hot water should always be used to mix the chemicals. It is exceedingly doubtful if sufficient heat can be generated with chemicals to heat the sand an appreciable distance from the well, but it is reasonable to suppose that the hot oil will dissolve some of the paraffin back in the body of the producing sand. Just how far can only be conjectured."

Longer Service

WITH

LAY·SET

GREEN STRAND

● Drillers everywhere, in constantly increasing numbers, are learning that they can cut their drilling costs with LAY-SET Preformed Green Strand Rotary Lines.

LAY-SET Preformed lines give longer, less interrupted drilling service because, being preformed, they almost refuse to whip (even at high speeds), and they spool tightly (even under the light load of the idle block). LAY-SET lines do not have to be back-twisted, and they thread much more easily through the traveling block, crown block and eye in drum.

Send for a sample of a LAY-SET Preformed Rotary Line. See for yourself why LAY-SET handles so much easier, resists kinking and is the fastest of all lines.

GREEN SIGNIFIES SAFETY

HAZARD WIRE ROPE DIVISION
ESTABLISHED 1846
AMERICAN CHAIN & CABLE COMPANY, Inc.
WILKES-BARRE, PENNSYLVANIA
Branches or Distributors in all Oil Field Centers

In Business for Your Safety

LAY·SET *Preformed* ROTARY LINES

✲ ALL HAZARD WIRE ROPES MADE OF IMPROVED PLOW STEEL ARE IDENTIFIED BY THE GREEN STRAND

APRIL-1917

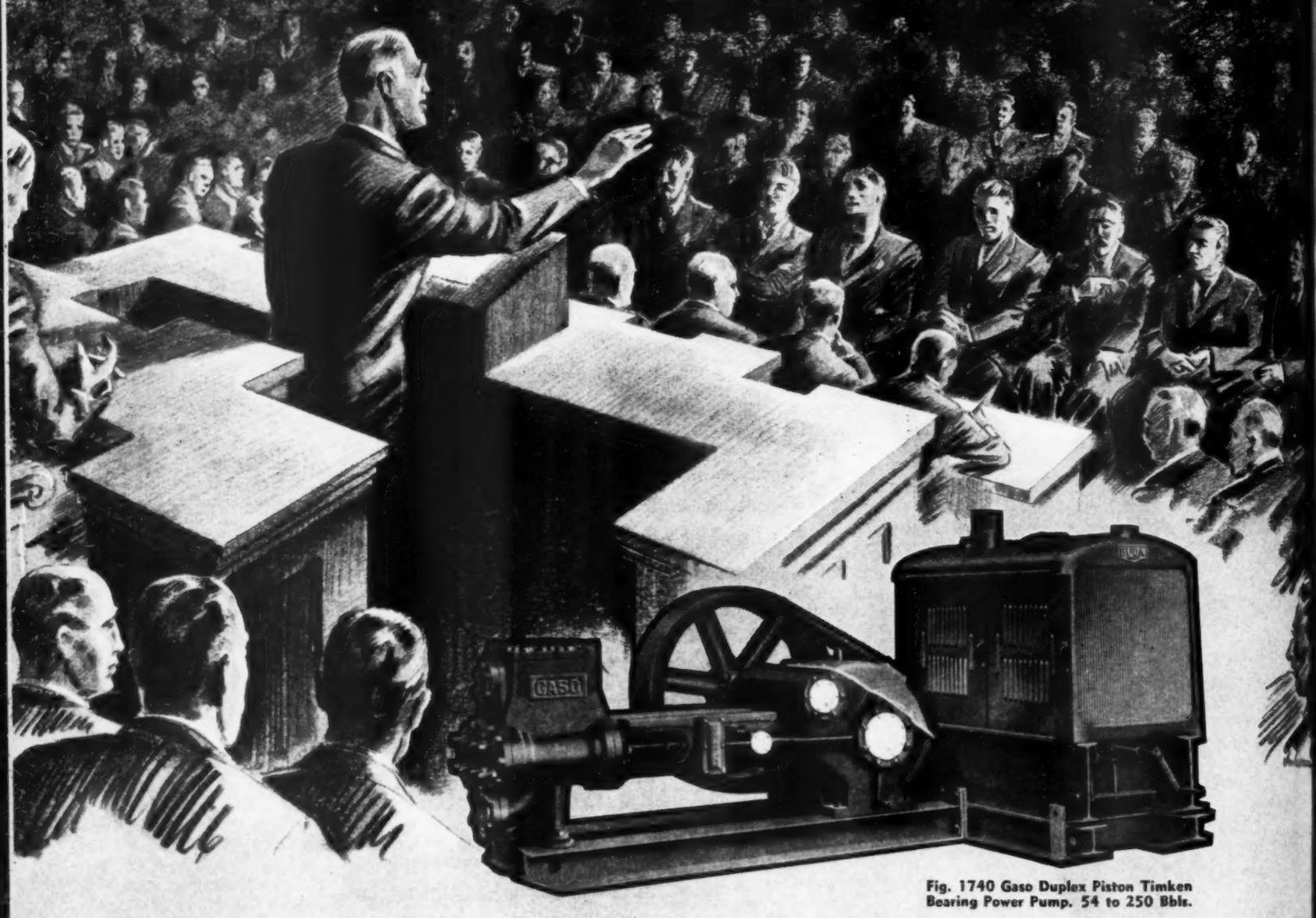


Fig. 1740 Gaso Duplex Piston Timken Bearing Power Pump. 54 to 250 Bbls.

April 6, 1917 . . . war . . . parades . . . draft boards . . . liberty loan drives. A long time ago? Yes, but many a Gaso Pump placed in service in 1917 is still delivering a full quota of service—striking proof that EXTRA strength pays EXTRA dividends in the form of EXTRA service. . . . Gaso Pump & Burner Mfg. Co., Tulsa, Okla. Export Office: 149 Broadway, New York.

Complete Gaso Condensed Catalog, in 1937 Composite Catalog

GASO PUMPS
for every oil industry need

FIELD OPERATIONS

Summarizing the Week's Developments

The Lisbon field in Claiborne Parish, Louisiana, was extended three-fourths of a mile eastward at a well that checked 17 feet higher and found 8 more feet of saturated sand than the discovery. The opening of a pool appeared probable in Panola County, Texas. Other features of the week in the Louisiana-Arkansas-Texas area was the starting of two new tests in the new Schuler area, Union County, Arkansas, and completion of 14 wells in the Rodessa field.

TEXAS

A wildcat in Crane County, West Texas, was showing as a producer from 3,512-38 feet and may extend the Waddell field or open a new pool, but probably will be deepened before completing. The Ellenberger (Ordovician) discovery well in the Sand Hills pool in Crane County lost tubing when it was blown out by heavy gas pressure, delaying completion of the well. Opening of a new pool or the extension of the Dodge or Chalk fields in Howard County appeared imminent. The Grand Falls area in Ward County was extended three-fourths mile southwest by the first well in that sector to flow. High gas pressure delayed completion of the discovery well in the Opelika district, Henderson County, East Texas. Three new producing areas were opened in Southwest Texas, two in Duval County and one in San Patricio County.

LOUISIANA GULF COAST

Highlights of the week along the Louisiana Gulf Coast were announcements of three new wildcats in Cameron, Acadia and St. Landry parishes. The producing area of the north flank of the West Hackberry field, Cameron Parish, and the English Bayou field in Calcasieu Parish were extended.

KANSAS

New oil-producing areas were opened south of the Stebbins pool in Rooks County, and between the Van Noy and Wiede areas in Woodson County. A wildcat opened a new gas area in Kearny County. Two new Siliceous lime producers were completed in the Key pool, Elk County. A large Topeka lime producer was completed on the Witt farm, 2 miles southwest of Gorham, Russell County.

OKLAHOMA

The South Cromwell pool opener in Seminole County flowed 380 barrels of oil in three hours. The wildcat that opened a new area south of the fault line in the Fitts district, Pontotoc County, was completed. A new gas area was opened in northwestern Hughes County. Wildcats were announced for the Newalla area, Oklahoma County, and northwest of the Fitts field.

NEW MEXICO

The largest of 10 producers completed in the Monument field, Lea County, New Mexico, was estimated as a 14,000-barrel producer. A new test was started as east offset to the discovery well in the Skaggs area, east of the Monument-Eunice gap.

ROCKY MOUNTAIN FIELDS

With the advent of spring weather, operations are increasing in the Rocky Mountain states. New tests were started in the Cut Bank and Kevin-Sunburst areas, northern Montana. A Sundance sand test is scheduled for the East Lance Creek field, Niobara County, Wyoming. A well on the Hartsel anticline, Park County, Colorado, found saturation in Pierre shale, but was drilling for Apache sand production.

Completions and Production

(Week Ending April 24, 1937)

	Oil	Gas	Dry	Total	1937 total comp. to date	1936 total comp. to date
N. Y., Pa., W. Va.	29	19	8	56	1,182	989
Ohio	8	6	3	17	282	99
Indiana	2	0	3	5	38	54
Kentucky	1	0	3	4	37	64
Illinois	3	1	1	5	19	15
Michigan	12	0	5	17	257	225
Kansas	32	1	11	44	675	450
Oklahoma	37	5	18	60	849	716
Texas:						
North Central Texas	29	1	18	48	837	810
West Texas	42	0	6	48	771	401
Texas Panhandle	7	3	0	10	198	212
East Texas	52	0	0	52	649	789
East Central Texas	4	3	3	10	202	77
East Texas border	10	1	1	12	138	12
Gulf Coast Texas	21	1	9	31	409	329
Southwest Texas	26	0	24	50	1,019	807
Total Texas	191	9	61	261	4,223	3,347
North Louisiana	12	1	2	15	183	184
Gulf Coast Louisiana	6	1	3	10	145	119
Total Louisiana	18	2	5	25	328	303
Arkansas	0	0	2	2	37	30
Montana	4	0	1	5	34	42
Wyoming	0	0	0	0	28	24
Colorado	0	0	0	0	6	10
New Mexico	15	0	0	15	233	146
Utah	0	0	0	0	0	4
California	32	0	9	41	442	341
Total United States	384	43	130	557	8,670	6,949
Total previous week	449	48	126	623		
Difference	65	5	4	66		

Outstanding Fields—Highlights

(Week Ending April 24, 1937)

Field—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Anahuac	1	5	1	576	168	14,837
Hastings	4	12	4	1,968	162	12,883
Loma Novia	3	2	3	320	686	17,200
Seven Sisters	1	3	2	625	394	9,550
Saxet	4	34	1	150	405	34,900
Lopez	2	3	2	530	322	8,035
East Texas	44	108	52	2,012	22,544	462,350
Talco	8	37	15	3,567	283	24,350
Ector County	43	181	10	9,152	.....	.....
Winkler County	17	17	11	6,886	.....	.....
OKLAHOMA						
Oklahoma City	4	15	2	1,313	1,109	172,400
Fitts	7	50	6	2,009	699	98,900
Olympic	5	15	3	262	295	15,525
KANSAS						
Ellis County	7	28	3	3,813	89	5,790
Reno County	8	30	4	2,305	399	20,320
Russell County	8	51	9	14,442	654	30,205
Rice County	9	51	4	3,291	802	51,050
NEW MEXICO						
Lea County	17	109	14	3,454	2,097	102,600
LOUISIANA-TEXAS						
Rodessa, La.	1	21	2	1,174	264	48,531
Rodessa, Tex.	1	34	10	3,600	268	37,504
Lisbon, La.	4	16	0	0	4	1,500
MICHIGAN						
Buckeye	20	60	9	7,512	52	19,520

Eastern Field Report

TO START NEW DEEP TEST IN SOUTHWEST PENNSYLVANIA

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Apr. 26.—A new deep test is starting in Southwest Pennsylvania. In Shenango Township, Lawrence County, Carnegie Natural Gas Co. is hauling material on the W. A. Currie 100 acres for a test scheduled for the Oriskany sand. It is nine-tenths of a mile north, 25½ degrees west of the company's test on the Heichel farm in Slippery Rock Township, which found about 55,000 feet of gas in that formation and then salt water intruded. It is also about 3 miles east of Newcastle and on that quadrangle is at latitude 40 degrees 58.4 min., longitude 80 degrees 16.3 min.

Thirty-three operations were completed in the lower eastern fields during the week of which seven were dry, 17 gas wells, and nine producers with an initial production of 125 bbls. Most of the new production was in Southeast Ohio.

SOUTHEAST OHIO

The best producer in Southeast Ohio was No. 18 of the Kachelmacher Estate on the Hemlock Coal Co. tract, SE section 25, Coal Township. Completed in the Clinton sand, it flowed 45 bbls. in 10 hours and stopped on account of low gas pressure.

In Athens County, Ohio Fuel Gas Co. completed a test on the Addie Douglass farm, section 7, near Cannanville in Lodi Township, in the Berea sand at 1,524 feet. It gauges 120,000 feet.

In Coshocton County, Preston Oil Co. completed No. 4 Alonzo Vanwinkle, section 14, Perry Township, in the Clinton sand at 3,190 feet. There is 1,800 feet of fluid in the hole and after the engines are changed it will be shot. It will probably make a 40 to 50-bbl. well.

In Guernsey County, John Sherman Taylor and others drilled on the Ray Wilson farm, section 12, Cambridge Township, through the Berea sand to 1,235 feet. It was dry.

In Hocking County, Preston Oil Co. completed No. 1,630 Sunday Creek Coal Co., NE quarter section 6, Ward Township, in the Clinton sand at 3,660 feet. It produced 26 bbls. the first day after shot.

In Jefferson County, Graham Brothers completed a test on the Oma Jewell farm, SW quarter section 34, Island Creek Township. Drilled in the Berea sand at 1,405 feet, it produced 2 bbls. the first day after shot. In the SE quarter of section 29, Saline Township, C. S. Kelly & Co. completed a test on the James A. Tilfer farm in the Big Injun sand at 952 feet and it produced 1½ bbls. the first day after shot.

In Medina County, Ohio Fuel Gas Co. completed a test on the C. S. Ganyard farm, section 47, Granger Township, in the Clinton sand at 3,488 feet, gauging 500,000 feet. In section 8, Liverpool Township, Obermiller Brothers drilled on the Fred Kleinkneckt farm through the Clinton sand to 2,865 feet and it was dry.

In Washington County, J. L. Swingle and others completed a second test on the James Murdock farm 1 mile south of Wolf Creek, Lot 1,070, Palmer Township, in the First Cow Run sand at 575 feet. It produced 2 bbls. the first day after shot. One mile northeast of Pattins Mills in section 26, Wesley Township, Helen J. Burt completed No. 3 J. W. Lowe in the First Cow Run sand at 423 feet. It is a half barrel pumper after shot.

SOUTHWEST PENNSYLVANIA

The 3½ miles of 4-inch line to the test of William Snee and others on the Summit Hotel lease on Chestnut Ridge in South Union Township, Fayette County, has been connected. No gas has yet been turned into the line which will connect at Hopwood to Fayette County Gas Co. The gauge on this well has increased, the latest report being 1,270,000 feet a day in the new hole, and 527 feet outside of the casing and on the bradenhead.

In Franklin Township, Butler County, 1 mile south of Prospect, the deep test of American Natural Gas Co. and T. W. Phillips Gas & Oil Co. on the Perry S. Davis farm has reached 5,572 feet or 24 feet in the Oriskany sand. The original volume of 25,000 feet of gas at the top of the sand remained unchanged through the sand. This test will be shot, probably more than once.

In Beaver County, the test of John T. Galey and others on the Minnie Weigle heirs farm in South Beaver Township, is drilling at 2,750 feet. On the Beaver Falls Airport Corp. lease in this township, A. J. Wise, Jr., and others have reached 4,270 feet.

In Washington County, the deep test of Norwood Johnston and others on the James McBurney farm in Mount Pleasant Township, 2 miles south of Hickory, is still fishing for the tools and cable lost due to a gas blowout at 6,170 feet. More line has been recovered.

In Fairfield Township, Westmoreland County, the deep test of Potter Development Co. on the Indiana Savings Bank lease (Kern Dodge No. 1 elevation 2,650 feet Laurel Ridge), is making fair progress and drilling at 7,335 feet.

Operations

Two gas wells were completed in Southwest Pennsylvania. In Greene County, Ross Burns and others completed the test on the John Phillips farm in Aleppo Township at 3,002 feet. The Gordon sand was at 2,844-54 feet with 94,000 feet of gas at 2,846 feet. The well may not be kept.

In Springhill Township, Greene County, Null & Moorhead completed the test on the John Barger farm at 1,970 feet, the First Salt sand, gauging 213,000 feet.

In Center Township, Greene County, J. B. Orndoff has made a location for a second test on the J. B. (Mattie) Scott farm. No. 1 is a good producer. In this township, South Penn Oil Co. cemented the break between the Fifty-foot and Thirty-foot sands, the Fifty-foot 3,119-86 feet, and reached top of the Thirty-foot or producing pay at 3,206 feet. It is being drilled as No. 10 on the Samuel Harvey farm. No. 9 is producing about 45 bbls. Carles Mong and others are shut down cementing at 2,060 feet on the J. L. Metz lease.

In Richhill Township, Greene County, Manufacturers Light & Heat Co. has a location on the Ward Chambers farm. Natural Gas Co. of West Virginia is down 740 feet on the O. W. Grinnage farm and on the Johnson farm 430 feet. In Springhill Township, Union Gasoline & Oil Corp. has reached 2,350 feet on the Lloyd Strope farm. Dunn Mar Oil & Gas Co. is drilling at 2,225 feet on No. 2 Kohn Jeirs. In Wayne Township, H. D. Freeland has started drilling No. 3 D. L. Freeland after losing the original hole and skidding the rig.

In Fayette County, Greensboro Gas Co. has a location on the G. W. Hillen farm in Nicholson Township.

In Amwell Township, Washington County, Equitable Gas Co. has made a location on the Mary Walker farm. Carnegie Natural Gas Co. is down 2,663 feet on the N. B. Redd farm. In South Franklin Township, Dunn Mar Oil & Gas Co. is drilling at 2,653 feet on the J. T. Baldwin farm. Carnegie Natural Gas Co. is drilling at 1,675 feet on No. 2 Alberta Iams and 2,242 feet on the C. T. Dodd farm.

In South Strabane Township, Washington County, Victor D. Behm and others have a location on the J. S. Smith farm. In Peters Township, Henderson & Co. are underreaming at 1,514 feet on the Bell heirs farm.

WEST VIRGINIA

Two small producers were completed in West Virginia. In Clay County, South Penn Oil Co. completed No. 9 James Phillips in Henry district in the Injun sand at 1,956 feet, showing for 6 bbls. a day.

In Pleasants County, Grant and Atha completed a test on the J. R. Smith farm in Union district in the Cow Run sand at 515 feet as a quarter barrel pumper.

In Boone County, Owens-Illinois Glass Co. completed No. 25 Cassingham Coal Land Co. in Scott district at 2,180 feet gauging 435,000 feet. Big Lime was at 1,424-1,646 feet; Big Injun, 1,646-88 feet; Berea, 2-118-46 feet, with gas at 2,128-36 feet.

In Cabell County, Penn Natural Gas Co. completed a test on the Walter Adkins farm in McComas district as a gas well at 3,135 feet. Big Lime was at 1,300-1,475 feet; Big Injun, 1,540-80 feet; Berea, 2,120-28 feet; Brown shale, 2,805-3,130 feet; gauging 212,000 feet a day at 2,805-2,915 feet. In this district, Lusher & Lusher completed the test on the Nellie B. Morrison farm at 3,609 feet. Big Lime, here, was at 1,412-1,594 feet; Big Injun, 1,670-1,738 feet; Berea, 2,221-34 feet; Brown shale, 2,700-3,317 feet, and 250,000 feet of gas at 2,700-65 feet.

In Calhoun County, Ivy Gainer and others completed No. 3 Ivy Gainer in Center district as a gas well at 1,983 feet. Big Lime was at 1,820-1,947 feet, with 276,000 feet of gas, naturally, at 1,831-37 feet; Big Injun, 1,927-83 feet, with 368,000 feet a day at 1,962-71 feet.

In Gilmer County, Massey & Jarvis completed a test on the George Lynn heirs farm in Glenville district at 1,261 feet gauging 600,000 feet. The Maxton sand was at 1,225-61 feet with the gas at 1,245-61 feet. In DeKalb district, Dr. J. A. Rusmissel completed a test on the W. V. Gainer farm at 1,938 feet, the Injun sand, and it was dry.

In Hancock County, James Crago and others drilled a test on the George R. Crago farm in Clay district through the Fifth sand to 1,430 feet and it was dry.

In Harrison County, Lumberport & Shinnston Gas Co. completed a test on the D. R. Rogers 29 acres in Eagle district at 3,418 feet, Balltown sand, a small gas well.

In Kanawha County, North Eight Producing Co. completed a test on the L. E. and L. R. Belcher farm in Malden district as a gas well. Big Lime was at 1,168-1,335 feet; Big Injun, 1,335-69 feet; Weir, 1,585-1,684 feet; Berea, 1,789-92 feet, with 94,560 feet of gas in that formation.

In Lewis County, McCall Drilling Co. completed a test on the John F. Alfred farm in Freemans Creek district at 1,798 feet, gauging 460,000 feet a day. Big Injun was at 1,664-1,764 feet, with the gas at 1,713-36 feet. In Court House district, T. M. Cain completed a test on the John Turner 38 acres in the Fifth sand, gauging 386,000 feet a day. Hope Natural Gas Co. completed No. 2,566 on the Dora Arbogast farm in the Fifth sand good for 100,000 feet.

In Marion County, Victor E. Tennant completed a test on the Price heirs farm in Mannington district in the Fifty-foot sand at 2,429 feet, gauging 350,000 feet.

In Ritchie County, Fred Gamage and others drilled on the Ed Wells farm in Union district through the Squaw sand to 1,900 feet. It was dry.

In Wayne County, F. H. Yates drilled on the Garnet Ferguson farm in Lincoln district to 1,463 feet and it was dry. Big Lime was at 1,230-1,415 feet.

In Wetzel County, Carnegie Natural Gas Co. completed No. 3 N. Kennedy in Church district in the Murphy sand at 1,199 feet, gauging 29,112 feet. In this district Maxon Oil & Gas Co. completed No. 3 J. D. Bartrug in the Maxton sand showing for 8 bbls.

In Wirt County, Glenn Roberts completed No. 6 G. W. Roberts in Burning Springs district in the Injun sand at 1,819 feet, a small gas well. The test of L. B. Carroll and others on the F. D. Feree farm found the Injun sand dry. Total depth was 1,895 feet.

Outside Deep Tests

Another outside deep test in West Virginia is listed for an early start. In Jackson County, United Carbon Co. has a location on the Elizabeth Ward Perkins and others lease, 45 acres, in Washington district. It is about a half mile northwest of Higby postoffice just across the line in Roane County and on the square latitude 38 de-

(Continued on Page 82)

Oklahoma Operations

By
DAL DALRYMPLE

WILCOX TEST FOR NEWALLA; EXTEND FITTS EXPLORATION

Wildcats, new and old, claimed the spotlight in Oklahoma the past week, although some of the proven areas were not without their interest. The Newalla structure of southeastern Oklahoma County is to be tested a third time, Sunray Oil Co. and associates announcing location for No. 1 Dickson, NW cor. section 17-11-1e, wildcat that is to test the Wilcox sand. Work was to start immediately.

The Newalla anticline is thought to be about 18 miles long, north and south, with several pronounced highs. One well drilled several years ago in section 19-11-1e had oil showing in Hunton lime, was dry in the Wilcox sand and junked hole while plugging back and testing. A well drilled more recently in section 15-11-1e was dry in Wilcox sand. Deal for the new test was worked up by John E. Dickson, president of the Dickson Oil Corp. and a Sunray director. The Sinclair Prairie, Mid-Continent Petroleum and Magnolia Petroleum companies have contributed acreage or dry hole money to the test.

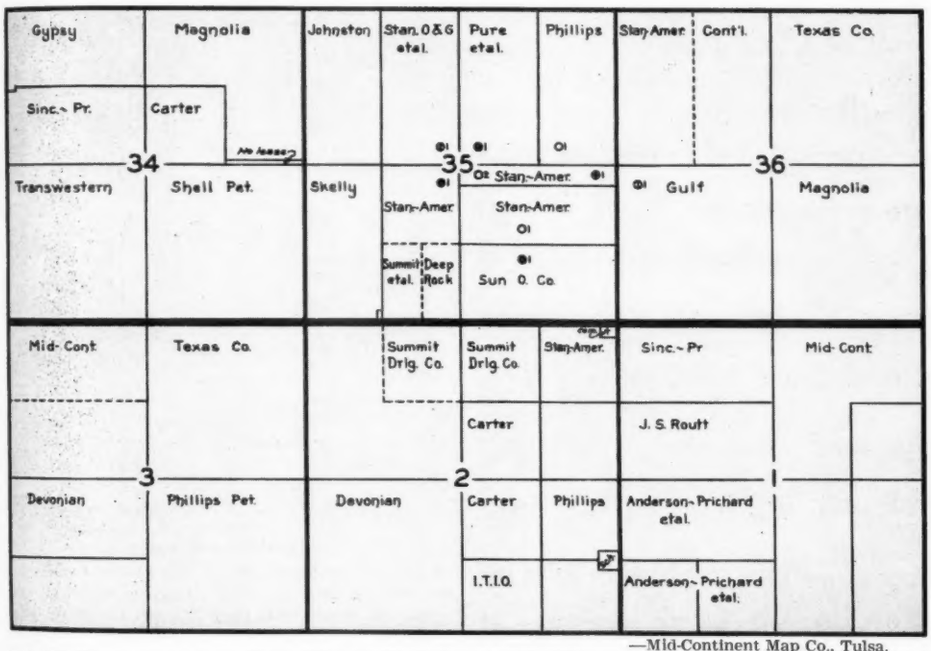
A Wilcox sand test was announced for the area immediately northwest of the Fitts field, Pontotoc County. Roodhouse and others No. 1 Booth, SW NE SE section 20-2n-6, is location for the new wildcat in this district. The E. H. Moore and others No. 1 Muse, wildcat south of the fault line at Fitts, was officially completed as a small producer. The Fitts field continued to set the pace for the state in amount of drilling, and daily production in that prolific area gradually is flearing the 100,000-bbl. mark, the daily average for the last week being 98,900 bbls.

One of the more interesting wildcats in southern Oklahoma was the Carter Oil Co. and others No. 1 Harley Community, C NE NE section 24-2s-4w, southeastern Stephens County. It was drilling below 4,777 feet in Hunton lime, after passing up a showing of oil at 4,536 feet. It was running considerably higher structurally than the Carter and associates' deep discovery well in the Fox field to the east in Carter County.

Sinclair Prairie Oil Co. No. 1 Rossanna, NW NW SW section 28-10-8, wildcat, definitely has opened a new area south of the Cromwell field, Seminole County. It had Wilcox sand at 4,176-89 feet and flowed 380 bbls. of oil in three hours before being shut in for storage. The new area, which is between the North Bethel pool of Seminole County and the Olympic field of Hughes-Okfuskee counties, probably will be designated as the South Cromwell pool.

A new gas area was opened by a wildcat in northwestern Hughes County.

The Wellston pool, Lincoln County, and the Langston pool, Logan County, were changed from Class D to Class C rating in new orders issued by the Corporation Commission, effective May 1. Minimum allowables were fixed at 100 bbls. daily per well in each area. The wells are to be tubed and tested for potential, gas-oil ratio and bottom-hole pressures.



—Mid-Continent Map Co., Tulsa.

The Wellston pool in sections 35 and 36-15-2e, Lincoln County, has been reclassified from Class D to Class C rating, effective May 1

Pontotoc County

Completions of the week in Pontotoc County included a wildcat south of the fault line in the Fitts district, and six producers and one failure in the Fitts field.

The wildcat was E. H. Moore and others No. 1 Muse, SW NE SE section 33-2n-7e, averaged slightly more than 100 bbls. of oil daily following second acid treatment after plugging back from 5,253 feet, total depth, to 4,570 feet. It flowed 31 bbls. of oil on gas lift in five hours after plugging back and before acidizing. It flowed 582 bbls. of oil in 18½ hours after acidizing with 10,000 gallons the second time, 171 bbls. the next 24 hours and thereafter declined to around 100 bbls. daily. Tops were as follows: Atoka, 1,060 feet; Wapanucka, 2,405 feet; Union Valley, 2,960 feet; Cromwell, 3,000 feet; Pennsylvania Caney, 3,130 feet; Mississippi Caney, 3,395 feet; Mayes, 3,600 feet; Woodford, 3,655 feet; Hunton, 3,876 feet; Sylvan, 4,181 feet; Viola, 4,310 feet; Bromide, 4,570 feet; McLish, 4,780 feet; sandy Dolomite, 4,855 feet; Dense, 5,060 feet; Wilcox sand, 5,185 feet. Completion of this well as a producer was due to be followed by a considerable drilling campaign in the area between the Fitts and Jesse fields.

Skelly Oil Co. No. 4 Ingram, SE SW NW section 23-2n-7, had Hunton lime at 3,760 feet; total depth 3,900 feet; flowed 424 bbls. of oil in one hour through casing; acidized and made potential of 5,086 bbls. Same company's No. 19 Park College, NW SW NE section 28-2-7, topped Hunton at 3,288 feet; Sylvan, 3,546 feet; total depth, 3,547 feet; acidized, flowed 431 bbls. of oil in two hours, making potential of 4,647 bbls.

E. H. Moore and others No. 1-A Mack, SW NW SE section 28-2-7, flowed 189 bbls. of oil in 1 hour and 15 minutes after acid treatment and was completed at 3,500 feet, total depth, with potential rating of 1,231 bbls. Top of Hunton lime was 3,232 feet.

Carter Oil Co. No. 24 Richards, NE NW SW section 30-2-7, topped Hunton lime at 3,304 feet; Sylvan, 3,599 feet; total depth, 3,601 feet; acidized and made potential of 168 bbls. of oil.

Magnolia Petroleum Co. No. 12 Harden, NW NW NE section 30-2-7, flowed 333 bbls. of oil gross in one hour after treating with 10,000 gallons of acid, with potential rating of 1,439 bbls. Top of Hunton lime was 3,620 feet; Sylvan, 3,831 feet; total depth 3,837 feet. Same company's No. 18 Simpson, SE SE NE section 29-2-7, found Cromwell sand at 2,395 feet, was bottomed at 2,522 feet and flowed 464 bbls. of oil in 20 hours through casing; later, 447 bbls. in 24 hours through tubing.

E. H. Moore and others No. 4 Mobley, SE NW NE section 32-2-7, had Wilcox sand at 4,715 feet and was dry and abandoned at 4,775 feet.

New work in Pontotoc County: Skelly Oil Co. No. 2 Smith, NE cor. section 35-2-6, rig; same company's No. 3 Akers, SE SW NE section 36-2-6, rig; same company's No. 4 Akers, SW SW NE section 36-2-6, cellar and pits; Magnolia Petroleum Co. No. 1 Norris, SE SE NE section 21-2-7, building rig; Skelly Oil Co. No. 11 Metropolitan Life, SE SE SW section 23-2-7, rig; J. E. Crosbie No. 1 Burris, NE SE NW section 27-2-7, an old well, rigging up rotary to deepen; E. H. Moore No. 1-B Harper, SW SW NE section 29-2-7, cellar and pits; same operator's No. 4-A Harper, NW SW NE section 29-2-7, cellar and pits; E. H. Moore No. 6-B Harper, SE NW NE section 29-2-7, cellar and pits; same operator's No. 8-B Harper, NE NW NE section 29-2-7, cellar and pits; Richborn Oil Co. No. 1 Whitney, SW SE SE section 12-5-4, moving in tools; same company's No. 1-A Fleming, SE NW NE section 13-5-4, location; Sinclair Prairie Oil Co. No. 2 Gordon, SE SW NE section 21-5-5, location. E. H. Moore No. 3-B Harper, NE SW NE section 29-2-7, rigging up rotary.

Seminole County

The largest of two producers completed in the North Bethel pool, Seminole County, was Amerada Petroleum Corp. and others No. 3 Pryor, SE NE NW section 36-10-7. It found Cromwell sand at 3,629 feet, was bottomed at 3,648 feet and flowed 1,542 bbls. of oil in 24 hours. Same company's No. 1 Noble, SE SW SE section 25-10-7, flowed 322 bbls. of oil in 24 hours from Cromwell sand topped at 3,592 feet; total depth 3,602 feet.

In the North Earlsboro area, Sinclair Prairie Oil Co. No. 1 Letka, SE SE NW section 35-11-5, had Hunton lime at 4,390 feet; Wilcox sand 4,648 feet; total depth 4,664 feet; plugged back to 4,460 feet; ripped casing and swabbed 87 bbls. of oil in 24 hours. After shooting and acidizing, it pumped 47 bbls. of oil and 85 bbls. of water in 24 hours.

Gulf Oil Corp. No. 2 Myrtle, C S half SW SE section 26-11-6, had Hunton lime at 4,111 feet; total depth

4,137 feet; acidized and flowed 470 bbls. of oil, with some water, in 24 hours.

Sinclair Prairie Oil Co. No. 4 Hassman, SE NE NE section 3-8-5, Carr City area, had Hunton lime at 3,947 feet; Sylvan 3,964 feet; Dolomite 4,110 feet; total depth 4,134 feet; swabbed 40 bbls. of oil in 21 hours; acidized and pumped 40 bbls. in 24 hours.

First reports of new Seminole County tests: Rogers & Rogers No. 2 Judy, SW cor. section 5-6-8, building rig; J. F. Smith and others No. 2 Huddleston, NE NE NW section 32-7-6, building rig; Wrightsman Oil Co. No. 1 Rive, SE SE NW section 3-8-8, location; Carter Oil Co. No. 1 Loy, C W half SW SE section 7-10-6, an old well, plugging back; J. F. Smith No. 1 Klous, NW SE SE section 34-11-8, building rig.

Okfuskee County

A trio of producers were completed in the Olympic field, Okfuskee County. Ark Royalty Co. No. 10 Fisher, NW SW SE section 18-10-9, found Senora sand at 1,858 feet; was bottomed at 1,900 feet; shot and pumped 200 bbls. of oil in 24 hours. Earl Evans No. 2 Gooden, NE NW NW section 36-10-8, pumped 50 bbls. of oil in 24 hours from Senora sand topped at 1,734 feet; total depth, 1,746 feet. Chapman & McFarlin No. 4 Williams, SE NE SW section 25-10-8, had Senora sand at 1,763 feet; total depth, 1,778 feet, and pumped 12 bbls. of oil in 24 hours.

Deep Rock Oil Corp. No. 4 Palmer, SE SW SE section 23-12-11, Sheldon area, had Wilcox sand at 3,579-3,601 feet, total depth, and flowed 215 bbls. of oil in 24 hours. After a shot it flowed 240 bbls. of oil in 24 hours.

Helmerich & Payne No. 1 Lasley B, NE NW SW section 25-10-10, an old wildcat, had Cromwell sand at 3,240-78 feet, total depth, and produced 40,000,000 feet of gas when completed in February. Gas decreased, operators ran tubing and recompleted the well, which flowed 30 bbls. of oil daily, with 500,000 feet of gas. Same operators' No. 1 Brooks, SE SE NE section 26-10-10, an old well, was deepened from 3,254 feet to second Cromwell sand at 3,318-20 feet, total depth, produced 5,000,000 feet of gas and was recompleted.

Chapman & McFarlin No. 4 King B, SW NW SW section 30-10-9, an old Olympic well, pumped 200 bbls. of oil in 24 hours after deepening from 1,770 feet to 1,775 feet and shooting.

Operations starting in Okfuskee County were as follows: Sinclair Prairie Oil Co. No. 2 Phillips, SE SE NE section 24-10-8, rig; Champlin Refining Co. No. 2 Mandie, SW SE SW section 7-10-9, set 12-inch casing at 56 feet; Oklahoma Oil Corp. No. 1 Morris, NE SW SW section 8-10-9, rig; J. J. Deaner No. 1 Schultz, SE SE NW section 18-10-9, an old well, deepened from 1,887 feet to 1,895 feet and cleaning out after shot; Sinclair Prairie Oil Co. No. 10 Fisher, SE NW SW section 19-10-9, cellar and pits; Ohio Oil Co. No. 1 Huldy Deer, C NW NW section 28-10-11, location; E. H. Moore and others No. 1 Littrell, NW NE SE section 29-10-11, rig on ground; Davis and others No. 1 Lehame, NE NE NW section 29-11-9, wildcat, location.

Estimated Daily Production

Estimated daily average production of Oklahoma for the week ending April 24, and for the preceding week, was as follows:

	Barrels	
	Apr. 24	Apr. 17
Allen	6,325	6,350
Burbank	7,675	7,625
South Burbank	16,150	16,175
Balance Osage	21,500	21,500
Blackwell district	5,125	5,100
Bristow-Slick	7,725	7,775
Chandler	3,450	3,450
Crescent	15,925	15,050
Cromwell	3,200	3,300
Cushing-Shamrock	10,275	10,250
Duncan district	3,750	3,875
Edmond	22,700	20,075
Fish	6,150	6,200
Fitts	98,900	94,475
Jesse	3,725	...
Graham	4,725	4,750
Gray	1,325	1,325
Healdton	9,750	9,650
Hewitt	4,475	4,325
Holdenville	950	950
Keokuk	9,525	9,300
Lucien	13,650	14,350
Moore	15,800	14,500
Oklahoma City	172,400	167,225
Olympic	15,525	15,450
Papoose	900	900
Polo	1,650	1,675
Sasakwa and townsite	3,125	3,150
Sholem-Alechem	3,125	3,250
Seminole:		
Bowlegs	11,650	11,775
Carr City	5,950	5,825
Earlsboro	6,575	6,525
South Earlsboro	675	675
East Earlsboro	7,700	7,725
Little River	11,025	11,175
East Little River	1,200	1,225
Maud	750	775
Mission	2,250	2,275
Seminole	9,625	9,450
East Seminole	3,300	3,325
Searight	4,850	4,925
Total Seminole	65,550	65,675
St. Louis-Pearson	21,925	23,075
Tatums	4,950	4,775
Tonkawa-Garber-Thomas	10,150	10,200
Wewoka	3,450	3,500
Yale-Jennings	4,150	4,175
Other pools	70,975	74,000
Total Oklahoma	670,650	657,400

Oklahoma County

British American Oil Producing Co. No. 4 Parkway, SW SW NE section 27-12-3w, was the largest of two producers completed in the Oklahoma City field, Oklahoma County. It topped second Wilcox sand at 6,400 feet, was bottomed at 6,524 feet, flowed 659 bbls. of oil in three hours and made potential of 7,659 bbls.

Inland Development Co. No. 1 Howe's Capitol, SE NW SE section 27-12-3w, topped second Wilcox sand at 6,387 feet; total depth 6,525 feet; flowed 654 bbls. of oil in three hours, and made potential of 6,456 feet.

In the Britton area, Transwestern Oil Co. and others No. 1 McGrew, SW cor. section 20-13-3w, an old well, was deepened from 6,690 feet to second Wilcox sand at 6,782 feet; total depth, 6,800 feet; flowed 302 bbls. of oil in 24 hours and was recompleted.

Phillips Petroleum Co. No. 6 Traders, NE SW SW section 36-12-3w, was digging cellar. Transwestern Oil Co. and others No. 1 Church, NE cor. section 30-13-3w, an old well, was rigging up to deepen.

Cleveland County

Gulf Oil Corp. No. 1 Allen, NE SW SW section 27-10-2w, Moore pool, Cleveland County, flowed 628 bbls. of oil in four hours, making potential of 3,593 bbls. of oil, and was completed after plugging back from 7,304 feet, total depth, to 7,218 feet. Top of second Wilcox sand was 7,293 feet. Gas gauged 8,250,000 feet.

New work in Cleveland County: Stanolind Oil & Gas Co. and Amerada Petroleum Co. No. 3 State, SE NE SW section 16-10-2w, digging cellar and pits; Sinclair Prairie Oil Co. and others No. 4 Marvel, SE SW

The Power of $50,000,000.00

Over a period of 42 years this Bank has grown to large proportions. Much of that growth has been due to its interest in the Oil Industry. By serving it has grown to a size which enables it to be of even more assistance.

Experience—knowledge—ability; all are behind this Bank.

When you have problems that involve development, come to the First National Bank and Trust Company of Tulsa.

DIRECTORS
B. F. BARNETT, Vice President
J. P. BYRD, JR., Vice President
M. M. DOAN, Oil Investments
F. L. DUNN, Executive Vice President
A. L. FARMER, Real Estate
H. N. GREIS, Oil Producer
JOHN D. MAYO, Mayo's, Incorporated
R. OTIS McCLINTOCK, President
F. B. PARRIOTT, Oil Producer
W. G. SKELLY, President, Skelly Oil Company
ELMO THOMPSON, Vice President

1895

THE FIRST NATIONAL BANK AND TRUST COMPANY OF TULSA

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

FOUNDED 1898

We Bank on OIL

1937

NE section 21-10-2w, digging cellar and pits; same operators' No. 3 Franklin, NE NW SE section 21-10-2w, digging cellar and pits. Same operators' No. 4 Franklin, NE NE SE section 21-10-2w, digging cellar and pits; Gulf Oil Corp. No. 2 James, SE NW SW section 27-10-2w, an old well, deepened from 7,281 feet to 7,289 feet, cleaning out and running Schlumberger test.

Osage County

Magnolia Petroleum Co. No. 8 Osage, SW SW NW section 11-26-6, Burbank area, Osage County, found Bartlesville sand at 2,835 feet; total depth 2,850 feet; was shot and pumped 69 bbls. of oil in 24 hours.

Barnsdall Oil Co. No. 6 Osage, NE SE NE section 35-25-11, had Bartlesville zone at 1,688 feet; total depth 1,742 feet; plugged back to 1,739 feet, was shot and swabbed 48 bbls. of oil in 24 hours.

Midco Oil Corp. No. 6 Osage, NW SE SW section 17-22-10, pumped 60 bbls. of oil in 24 hours after plugging back to 2,043 feet from 2,048 feet, total depth. Top of Mississippi lime was 1,963 feet.

Barnsdall Oil Co. No. 21 Osage, SE NW SE section 5-20-12, had Bartlesville sand at 1,370-1,400 feet, total depth, was shot and pumped 10 bbls. of oil and 21 bbls. of water in 24 hours. Indian Territory Illuminating Oil Co. No. 445 Osage, SW SW NW section 31-27-12, produced 2,000,000 feet of gas at 1,132 feet, total depth, and was completed.

Bay Oil Corp. No. 1 Osage, NW cor. section 35-24-7, wildcat, topped Layton sand at 1,675 feet; Big Lime, 2,272 feet; Oswald, 2,428 feet; Skinner, 2,583 feet; pink lime, 2,639 feet; Bartlesville sand, 2,660 feet; had Chat at 2,803-30 feet, total depth, and was dry and abandoned. Murray Ringgold No. 10 Osage, section 25-21-6, was dry and abandoned at 1,144 feet, total depth. Hane & Clemishire No. 2 Osage, SE SE NE section 33-23-12, was dry and abandoned in Mississippi lime at 1,632-72 feet, total depth. Grimes & Gillespie No. 14 Osage, NW SW SE section 31-21-12, an old well, was dry and abandoned after deepening from 2,096 feet to 2,145 feet.

New work in Osage County: Kewanee Oil & Gas Co. No. 5 Osage, SW SW NW section 28-21-12, an old well, preparing to deepen; Ohio Oil Co. No. 8 Osage, NE SE SW section 36-22-8, machine; Pure Oil Co. No. 7 Osage, NW NE NE section 19-22-10, an old well, preparing to deepen; H. O. Coldren No. 22 Osage, NE SW NE NW section 14-22-11, location; Lewis Production Co. and Texas Co. No. 9 Claremore, SE NW SE section 17-24-7, building rig; Wolverine Oil Co. and others No. 48 North Avant Unit, NW SW NE section 31-24-12, location; Sinclair Prairie Oil Co. No. 7 Osage, NW SE NE section 16-25-6, moving in machine; same company's No. 6 Burbank, SE NE NE section 21-25-6, moving in machine; Indian Territory Illuminating Oil Co. No. 1 Osage, SW SW NE section 27-25-11, old well, to be deepened; Magnolia Petroleum Co. No. 9 Osage, NW SW NW section 11-26-6, digging cellar; Bay Oil Corp. and others No. 3 Osage, SW SW SE section 14-26-6, location; Kewanee Oil & Gas Co. No. 2 Blaine, NW SW SE section 23-26-6, location; Buffalo Royalty Corp. No. 54 Osage, SE NE NE section 20-26-12- location.

Noble County

Another large Wilcox sand producer was completed in the Billings pool, Noble County, at Phillips Petroleum Co. and Shell Petroleum Corp. No. 8 McCaughtry, SE NW NE section 21-23-2w. Sand was topped at 4,272 feet and the hole was bottomed at 4,309 feet. It flowed 1,585 bbls. of oil, with 67 bbls. of water, in six hours, making potential of 5,269 bbls. of oil.

Continental Oil Co. was starting two tests in the Billings area. The No. 2 Nora Conway, NE NE NW section 21-23-2w, and No. 3 Nora Conway, NE SE NW section 21-23-2w, were digging pits and cellars.

Kay County

The old Braman area of Kay County has a new producer at Clark-Nye and others No. 1-A McCullough, NW NW SE section 5-28-1w, completed at 2,793 feet, total depth. After a shot it swabbed and flowed 235 bbls. of oil a day. Top of Layton sand was 2,765 feet; first oil, 2,775 feet.

Clark-Nye and others were building rig at No. 3-A McCullough, NW SW SE section 5-28-1w.

Lincoln County

Only completion of the week in Lincoln County was in the North Wellston area at Stanolind Oil & Gas Co. and others No. 1 Clark, SW SW NE section 35-15-2e. It found Dolomite at 5,105 feet; Wilcox sand, 5,152 feet; was bottomed at 5,152 feet, and flowed 465 bbls. of oil in the first 24 hours.

Stanolind Oil & Gas Co. and associates were digging cellar and pits at No. 1 Cleveland, SE SE NW section 35-15-2e.

Creek County

J. E. Crosbie No. 5 Lacey, NE NE NW section 22-18-8, Olive area, Creek County, had Red Fork sand at 2,590-2,625 feet; total depth 2,630 feet; was shot and pumped 10 bbls. of oil daily.

Strozier Drilling Co. No. 1-A Atkins, NE NE SW section 12-16-11, Mounds area, produced 1,000,000 feet of gas from Glenn sand at 1,845-53 feet, total depth.

Comail Oil Co. and others No. 1 Hall, SW SW NE section 2-15-7, wildcat, topped Dewey at 1,230 feet; Layton, 1,670 feet; Checkerboard, 1,840 feet; Cleveland, 1,995 feet; Oswald, 2,435 feet; Bartlesville, 3,030 feet; Mississippi, 3,455 feet; Woodford, 3,850 feet; Sylvan, 3,880 feet; Viola, 3,930 feet; Wilcox, 3,999 feet, and was abandoned at 4,020 feet, total depth, with a hole full of water.

O. M. Ireland and others No. 3 Childers, SW SE NW section 9-17-11, topped Wilcox sand at 2,582 feet; had a hole full of water at 2,620 feet, and was abandoned. F. Kroger No. 1-A Baker, C N half NE SE section 14-17-10, was dry and abandoned at 1,952 feet, total depth. L. Abraham No. 2 Holman, SE NE NE section 24-17-9, an old gas well, was deepened from 1,125 feet to Bartlesville sand at 2,305-20 feet, total depth, was shot and completed as a 50-bbl. pumper.

Bruin Oil Co. No. 1-A Harjo, NE NE SW section 27-14-10, had Wilcox sand at 3,291-3,310 feet, total depth, pumped 35 bbls. of oil daily and was completed.

New work in Creek County: R. R. Kirchner and others No. 1 Harjo, SE NE SE section 27-14-10, rig; Tibbens No. 7 Yarhola, NW NE SE section 34-15-8, location; Texas Co. No. 17 McIntosh, location; Sinclair Prairie Oil Co. No. 8 Jones, NW SE NW section 4-17-7, an old well, moving in machine to deepen; Pure Oil Co. No. 18 Crowe, SE SW SE section 4-18-7, an old well, moving in machine to deepen; Link Oil Co. No.

BABE RUTH'S WEEKLY BROADCASTS BOOM SALES FOR SINCLAIR DEALERS

Babe Ruth's broadcasts on 61 Columbia stations are making Sinclair dealers' stations baseball headquarters in every neighborhood. Thousands of fans are flocking in for baseball contest entry blanks. And that is only the beginning. There will be a new contest each week with 2 Nash 8's, 20 RCA Victor Auto Radios and 500 Spalding Official Major League baseballs, "Babe Ruth autographed", given away each week.

Think what this will mean in new business for every Sinclair distributor, jobber and dealer. Consider what it could mean in new business for you. Phone your local Sinclair office today or write direct to Sinclair Refining Company (Inc.), 630 Fifth Avenue, New York City.

SINCLAIR

Sinclair dealer gives motorist a Babe Ruth Contest entry blank . . . . one of the thousands of sales opportunities created by the contest.

Babe Ruth on the air over 61 CBS stations, with ace sports announcer John Reed King.

Babe Ruth inspects 2 Nash 8's on display at a Sinclair dealer's station. Displays like this help draw motorists in for contest entry blanks—create more sales opportunities.

9 Milsey, C W half W half NW section 33-18-7, an old well, moving in machine to deepen.

Muskogee County

Conrad Lambert No. 1 Friday, SE SE SW section 5-15-15, Boyle area, Muskogee County, had a hole full of water and was abandoned in sand at 1,648-51 feet, total depth.

Hughes County

C. J. Wrightsman No. 1-A Diamond, NE NE SE section 33-9-9, Hughes County wildcat, topped Gilcrease sand at 2,880 feet; Wapanucka, 3,275 feet; Cromwell, 3,360 feet; Mayes, 3,808 feet; Woodford, 3,904 feet; Hunton, 3,938 feet; Sylvan, 4,060 feet; Viola, 4,165 feet; Dense, 4,200 feet; Dolomite, 4,215 feet; first Wilcox sand, 4,246 feet; second Wilcox sand, 4,279½ feet; total depth, 4,280 feet; plugged back to 3,420 feet, produced 30,000,000 feet of gas and was completed.

Caprock Oil Co. No. 1 Parks, SW SW SE section 34-7-8, Hughes County wildcat, was drilling at 2,490 feet. This has been called the "Dizzy-Daffy Dean test' because location is across the road from the old homestead of the baseball pitchers, Jerome "Dizzy" Dean and Paul "Daffy" Dean. It is to be a Wilcox sand test.

Pottawatomie County

Phillips Petroleum Co. No. 1 Weldfelt, NE NW NW section 2-7-4, St. Louis area, Pottawatomie County, an old well, was abandoned after plugging back from 3,819 feet to 3,431 feet, the hole filling with water after ripping the casing. Darby Petroleum Corp. No. 2 Nixon, SE SW SW section 9-7-4, an old well, was plugged back from 4,107 feet to 3,000 feet, ripped casing and was dry and abandoned.

Vierson and others No. 1 Irick, SW cor. section 13-11-6, had dug cellar and pits.

Okmulgee County

L. Stekoll and others No. 12 Hawkins, C S half SE section 6-11-12, Okmulgee County, had sand at 2,407-13 feet, total depth, produced 370,000 feet of gas and was completed.

Kirk S. White No. 1-A Graham, NE SW NE section 22-15-11, had a hole full of water in Wilcox sand at 2,833-38 feet and was abandoned. Martin & Reneau No. 1-A McHenry, NW NE SW section 16-14-11, had Wilcox sand at 3,003-22 feet, total depth, with a hole full of water, and was abandoned. R. E. Downing and others No. 26 Colbert, SW NW NE NW section 1-15-14, was completed as a repressure well at 1,275 feet, total depth.

Dixie Oil Co. No. 1-A Lowery, NE NE SE section 23-16-14, an old well, was underreaming casing preparatory to deepening.

Garvin County

Cox & Hamon No. 1 Dixon, NE SE NW section 32-1n-3w, Tussy pool, Garvin County, had pay sand at 2,080-2,150 feet; total depth, 2,461 feet; flowed 93 bbls. of oil on gas lift and was completed. Simpson & Fell No. 3 Derdeyn, NW SE NW section 17-1n-3w, an old well, was deepened from 1,575 feet to 1,762 feet, pumped 22½ bbls. of oil in 24 hours, recompleted.

Simpson & Fell No. 2 Derdeyn, NW SW NW section 17-1n-3w, an old well, was rigging up machine to deepen. Cox & Hamon No. 2 Harris, SW SE NW section 32-1n-3w, was a location.

Carter County

Hefner & Bray No. 1 Perkins, SE cor. section 4-1s-3w, Carter County sector of the Tussy pool, had sand at 2,725 feet; total depth, 2,745 feet, and flowed 60 bbls. of oil in 24 hours, completed.

Shell Petroleum Corp. No. 47 McClure, NE NE SW section 5-4s-3w, Healdton field, topped sand at 1,070 feet; total depth 1,097 feet; plugged back to 1,094 feet, and pumped 57½ bbls. of oil and 9 bbls. of water in 24 hours. Texas Co. No. 14 Watson, NW NW SE section 10-4s-3w, was dry and abandoned at 1,681 feet, total depth. Kewanee Oil & Gas Co. No. 5 Ferguson, NW SE NW section 6-4s-3w, an old well, was deepened from 1,161 feet to 1,165 feet, plugged back to 1,114 feet and pumped 35 bbls. of oil in 24 hours, recompleted.

Caddo County

A large gas well was completed in the Cement field, Caddo County, at Ohio Oil Co. No. 2 Leamon, SE NE SE section 2-5-9w. It was plugged back from 7,040 feet, total depth, to 4,500 feet, perforated casing and produced 20,112,000 feet of gas.

Ohio Oil Co. No. 5 Marchand, NW SE NW section 2-5-9w, was a cellar.

Stephens County

Carl Carter No. 6 Harley, NE SE NE section 24-2s-4w, Milroy area, Stephens County, was completed as an 8-bbl. well at 419 feet, total depth. Same operator's No. 5 Harley, SE NE SE NE section 24-2s-4w, was completed as a 7-bbl. pumper at total depth of 427 feet. Mudge Oil Co. No. 46 Woods, NW NW section 26-1s-5w, Velma area, was completed at 685 feet, total depth, as a 7-bbl. pumper. Same company's No. 45 Woods, C NW NW section 26-1s-5w, was dry and abandoned at 1,130 feet, total depth.

New work in Stephens County: Mudge Oil Co. No. 47 Woods, NW NE SW NW section 26-1s-5w, drilling at 230 feet; Carl Carter No. 7 Harley, NE NE SE NE section 24-2s-4w, rigging up machine; Texas Co. No. 4 Tomlin, NW SW NE NW section 15-3s-5w, an old well, moving in machine to deepen.

Cotton County

Shasta Oil Co. No. 1 School Land, SE SE SW section 36-1s-10w, Cotton County, was dry and abandoned at 2,541 feet, total depth.

Shasta Oil Co. No. 2 School Land, SE SE NW SW section 36-1s-10w, was a derrick.

Jefferson County

Buffalo Oil Co. No. 1 Crownover, SE SE NW section 21-6s-6w, Jefferson County wildcat, had a hole full of water at 2,765-2,811 feet, total depth, and was abandoned. Dodson-Wells-Pierson No. 1 Key, SE SE NW section 6-8s-6w, wildcat, was abandoned at 3,360 feet, total depth, in shale and lime shells.

Bridwell Oil Co. No. 11 Wahlgemuth, NE NW NW section 30-6s-5w, had sand at 1,483 feet; total depth, 1,528 feet; pumped 80 bbls. of oil in 24 hours and was completed. C. N. Smith No. 1 Seay Estate, NE NE SE SW section 3-7s-5w, was abandoned at 1,404 feet, total depth. Farlyn Oil Co. No. 41 Seay, SW NW SE section 3-7s-5w, had sand at 1,032 feet; total depth, 1,085 feet, and pumped 23 bbls. of oil in 24 hours.

(Continued on Page 93)

PROVEN *Performance..*

of WIRE WRAPPED SCREEN

is your insurance of satisfaction

The first successful screening of an oil well was accomplished by the use of a wire wrapped screen. This was done by Mahlon E. Layne on one of the earlier wells drilled in Spindletop at the opening of the nineteenth century.

Since then Wire Wrapped Screen has been set in countless wells the world over. It has been subjected to every known condition of producing strata. Through these 37 years of use, Wire Wrapped Screen has given unfailing performance, and has won the recognition of leading companies, operators and drillers.

The LAYNE WIRE WRAPPED SCREEN

is the direct descendant of this original, proven screening method. The Layne and Bowler Company, through 37 years of experience have added improvements and refinements of manufacture that give to the Layne Wire Wrapped Screen even greater efficiency of performance. The greatest of these improvements is the Layne Milled Groove Screen universally recognized as the foremost advancement in oil well screening since the origination of the Wire Wrapped Screen.

The Layne & Bowler Co., Houston, Texas

THE LAYNE WIRE WRAPPED SCREEN

Texas and Louisiana Gulf

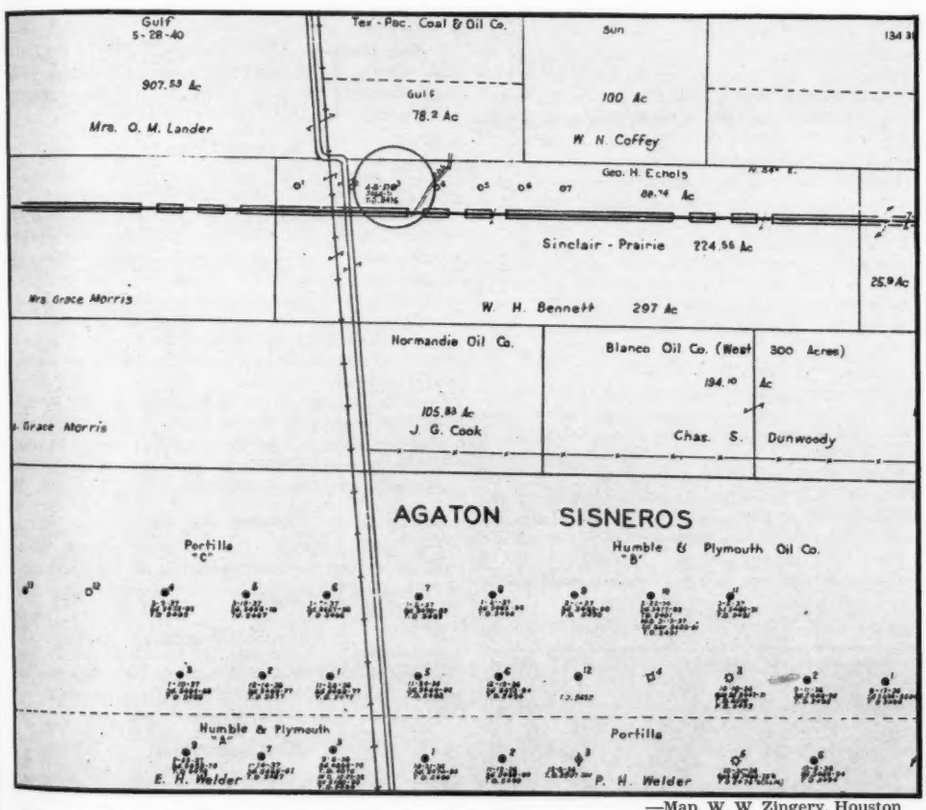
By
F. L. SINGLETON

TWO IMPORTANT OUTPOSTS TO GET PRODUCTION TESTS

HOUSTON, Tex., Apr. 26.—The potentialities of the Silsbee field in Hardin County and Lockridge field in Brazoria County apparently have been enlarged. Production tests were scheduled to be made on two important outpost wells.

One mile southwest of the nearest production in the Lockridge field, Brazoria County, Gulf Oil Corp. No. 1-A Wood cored sand showing oil and gas in the regular producing horizon at 6,362-76 feet and was attempting to make a drill-stem test. It is southwest of the company's No. 1 Carrie Baker, completed for a good producer in sand at 6,348-58 feet, the total depth. The well is in the Thomas Alsberry Survey, south of the Brazos River and if productive it will cause offset drilling along the banks of the river.

The Silsbee field, northeastern Hardin County, was



—Map, W. W. Zingery, Houston

Heyser field in Calhoun County showing extension to north completed by George Echols

been drilled, involved a cash payment of $300,000 and an oil payment of $400,000 out of one-fourth of the oil produced. Fifty per cent interest in the lease was controlled by McCarthy, 30 per cent by Few-Tex Oil Corp. and 20 per cent by Carroll Oil Co.

Test to Be Made

In the south extension area of Cotton Lake field, Salt Dome Oil Corp. has cemented 7-inch casing on bottom at 6,525 feet and will test through perforations the coming week. A drill-stem test was attempted at 6,510-19 feet, but the seat failed to hold and the hole was cored to bottom recovering 6 feet of soft sand showing oil with a brackish taste. The hole is 932 feet west of No. 1-C Lawrence in the S. Barrow Survey.

Commonwealth Oil & Gas Co. No. 3 Bennett, 1 mile north, in the Way area, 1 mile northwest of the nearest production, Bennett-Kenyon Oil Co. No. 2 W. J. Wade was reperforated at 8,058-62 feet and tested salt water with no pressure. The perforations have been cemented off and the hole will be retested at a higher level. The well is a west offset to the company's No. 1 Wade and is expected to curtail drilling in this direction.

Preparations are being made by Stanolind Oil & Gas Co. to test No. 1 D. A. Oates, 4,150 feet south of the discovery well of the Clinton field, Harris County. The hole is bottomed at 8,783 feet, at which depth it has been trying to blow out for several days. It is planned to cement the hole back and make a production test at approximately 8,600 feet, but the operators have encountered trouble in getting a good cement job.

Another good producer was recorded for the West Beaumont area, Jefferson County, by completion of Glenn H. McCarthy No. 4 Longe, which flowed 441 bbls. a day through a quarter-inch choke with tubing pressure 900 pounds and casing pressure 1,100 pounds. Production is from a screen setting made in sand at 5,359-80 feet, the total depth. In the adjoining tract to the south Stanolind Oil & Gas Co. No. 1 John W. Hall encountered oil sand at 6,094-6,103 feet and it is running 7-inch casing for a production test. To the south in the Amelia field, Humble Oil & Refining Co. No. 1-G E. W. Ephlin, Lot 4, Block E, of the Mayfair Subdivision in the C. Williams Survey, defined the field in that direction when it was abandoned at 7,281 feet. The Discorbis was topped at 5,625 feet, Heterostegina at 5,995 feet, Marginulina at 6,117 feet, with the Frio faulted out.

Segno Field Less Important

The Segno field, southern Polk County, lost some of its importance the past week when Humble Oil & Refining Co. No. 1 Kirby Lumber Co., a half mile east of production, drilled to the Conroe sand at 5,652 feet without encountering any showings, and the hole has been plugged back to the Upper Cockfield sand, the discovery horizon, where it will be recompleted. The hole was originally tested at this depth and flowed oil and salt water, and was drilled deeper in hope of picking up the second sand, usually encountered about 250 feet below the upper. Two additional producers were completed. J. K. Dorrance No. 3 Wing flowed 496 bbls. a day through a quarter-inch choke with tubing pressure 225 pounds and casing pressure 1,000 pounds. Production is from a screen setting made at 5,172-87 feet. Gulf Oil Corp. No. 1 Wing was completed at 5,193 feet for an initial production of 430 bbls. a day through a quarter-inch choke with tubing pressure 910 pounds and casing pressure 1,075 pounds.

West of the Pickett Ridge production, Wharton County, and offsetting Crown Central Oil Co. No. 1 Rod, in the J. Telfener Survey, Texas Co. has spudded No. 1 Earnest Wittig, a test that will be watched with interest. In the field proper, two wells are scheduled to be completed. Texas Co. No. 25-C Pierce Estate is bottomed at 5,558 feet with 7-inch casing cemented at 5,553 feet, while No. 26-C Pierce is bottomed at 5,563 feet with 7-inch casing cemented at 5,553 feet.

Nothing of importance was reported from the various wildcats throughout the district. At the Hitchcock Prospect, Shell Petroleum Corp. No. 2 Maco Stewart in the J. Spillman Survey has been abandoned at 6,800 feet while in Harris County on the Ogburn Prospect, H. M. Harrell and others No. 1 F. N. Bullock in the Charles Bowman Survey has been abandoned at 7,005 feet. A slight gas show was encountered at 6,636½-39 feet. In the same county, in the Aldine area, Texas Gulf Producing Co. No. 1 Gillespie & Garnsey is swabbing salt water and sand with a slight rainbow show of oil after reperforating at 7,095-7,100 feet.

Another failure apparently has been made at the

(Continued on Page 82)

assured of an 1,866-foot north extension as Republic Production Co. and Houston Oil Co. No. 9 Brooks showed for a distillate producer on a drill-stem test in the upper sand at 6,785-6,805 feet and started coring for the lower sand below 6,900 feet. It is due north of No. 7 Brooks in the G. W. Brooks Survey. Same company's No. 11 Brooks, on the west side of the field, which showed 12 stands of oil and salt water on a drill-stem test in the lower sand at 6,935-53 feet, has plugged back to 5,683 feet to sidetrack and probably will be completed for a gas well in the upper sand around 6,800 feet.

Glenn H. McCarthy and others, who opened the Cotton Lake field in Chambers County in August, 1936, by completion of No. 1 Kilgore in the J. Townsend Survey, have sold their holdings to Texas Crusader Oil Co. for $700,000. The deal, which included 340 acres on which seven producing wells and one dry hole have

north of production in the Heyser field and across the line in Victoria County, reperforated casing at 5,688-71 feet and started flowing 5 bbls. of oil an hour through a one-eighth inch choke, but pressure started building up, resulting in the flow turning to distillate. The well has been shut in with the casing and tubing pressure standing at 2,000 pounds. Surface casing has been cemented in the company's No. 4 W. H. Bennett, 500 feet northeast. No offset locations have been made by the Sinclair Prairie Oil Co. and Gulf Oil Corp., which have acreage north and south in the J. Galban Survey.

In the Gillock area of the Dickinson field, Galveston County, Stanolind Oil & Gas Co. No. 1 Dameani, in the W. K. Wilson Survey, flowed 801 bbls. a day through a quarter-inch choke with tubing pressure 1,625 pounds and casing pressure 2,050 pounds. Production is from oil sand topped at 8,714 feet and bottomed at 8,780 feet. This is the largest producer completed in this area. Due

Michigan Field Report

BUCKEYE TOWNSHIP SETTING PACE IN SPITE OF PRORATION

By
PAUL A. ELLIOTT

MUSKEGON, Mich., Apr. 26.—With production prorated not to exceed the pipe line capacity of the new field, Buckeye Township, Gladwin County, last week continued to set a fast pace for other Michigan crude areas with nine completions for Dundee oil and several boosted through treatment aggregating more than 7,500 bbls. of daily initial.

Daily flow of a second Upper Traverse limestone well indicating a profitable new western Michigan field in Salem Township, Allegan County, was multiplied by five by acidizing last week, jumping from a natural of 40 or 50 bbls. to about 240 bbls. in the first 24 hours.

Twelve new oil wells and four increased by treatment added about 8,500 bbls. to the state daily potential. There were five dry holes, three drilled to the Dundee, one through the Trenton and the other to the Traverse in five scattered counties. Two comparatively large wells for the Ogemaw County fields were completed in West Branch Township and one in Isabella Township, Isabella County.

Buckeye-Gladwin

Though the smallest new well of the week, John F. Martin No. 1 State, NE SW NE section 13-18n-1w, in Buckeye, was probably the most important, adding about 300 acres to proved territory in the northeastern sector. Dundee was topped at 2,573 feet and drilling suspended at 3,644 feet where the well produced 130 bbls. initially.

Largest new completion was Smith and McClanahan Oil companies No. 4 Brenner, NE SE SW section 11, in the northeast, which made 1,500 bbls. a day. Dundee was topped at 3,545 feet and drilling finished at 3,628 feet, at which point it started flowing at the rate of 60 bbls. an hour two locations west and one north of the Wicklund Development Co.'s discovery well.

The Wicklund company picked up about 2,500 bbls. more initial in two completions, No. 1-B and No. 1-C State, the former, SW SW NE section 11, and the latter, SW SW NW section 12.

Charles W. Teater, who opened the Porter Township, Midland County, field in 1933, added 1,000 bbls. a day in No. 1 Adamets, SW SW SW section 12, while Hyatt & Norton No. 1 Campbell, SW NE NW section 12, made 240 bbls. initial at 3,648 feet. The Teater well flowed 240 bbls. initial but was increased with acid. Sun Oil Co. No. 1 Salla was boosted from 75 to about 100 bbls. by acid as the first of six tests on a lease in the southwest quarter of section 11. John S. Orr made a 150-bbl. producer of No. 1 Flandorfer, an edge test SE SE SW section 2, by treating.

Southeast Sector-Buckeye

Largest new Dundee well in the southeast, or Oard section, was brought in by Archie M. Henry, whose No. 1 Lincoln National Life Insurance Co. flowed 1,200 bbls. a day after acidizing. Another which probably will equal it after treatment is Elsie K. Beaver, Trustee No. 1 Upton, NW SE NW section 36, which flowed 767 bbls. naturally in 24 hours. Clark & Johnson No. 1 McMahon, previously drilled into the Dundee for commercial production, was boosted to 1,200 bbls. a day by acidizing, while Gordon Oil Co. added 150 bbls. by treating No. 3-A Havens, NW SW NW section 36, which hit Dundee at 3,484 feet and was drilled to 3,595 feet.

Northwest of the field, Gordon Oil Co. struck bottom water in No. 1 McClure, NE NW NE section 25-19n-2w, Sage Township, Gladwin County, completing at 3,925 feet after topping Dundee lime at 3,863 feet. About 5 miles ahead of production, it revealed structures about 200 feet low 2 miles north of the village of Gladwin.

Ogemaw County

One of the best recent completions in the Ogemaw County Dundee field was completed by Fortney Oil Co. when No. 3 County Farm, SE SW NW section 20-22n-2e, West Branch Township, made 200 bbls. in the first 15 hours after treatment. Dundee was encountered at 2,573 feet and 300 feet of oil was reported in the hole at 2,708 feet. No. 1 on the same lease, recently completed for 250 bbls. initial, was still making about 100 bbls. a day, or more than the average Ogemaw producer. Weber Oil Co. also completed a 105-bbl. Dundee well in No. 1 Reinhardt, SW NE NW section 35, same township.

R. E. Gallagher No. 1 Gussman, SW NE SE section 24-22n-1e, Ogemaw Township and County, had 1,000 feet of oil in the hole and was scheduled for early completion in the Dundee.

The most active oil play in western Michigan was indicated in Allegan County by the new 240-bbl. upper Traverse producers completed by Muskegon Development Co. after treatment. Located a mile west and slightly south of Lentz & Miller, Inc., No. 1 Roy Raab, recently boosted from 50 to about 300 bbls. a day by acidizing, the new well on the Holthof & Sawyer lease, NE NW SE section 17-4n-13w, Salem Township, flowed 203 bbls. in the first 20 hours after acid. At this flow it virtually equaled the natural initial of the discovery Upper Traverse well in the old Muskegon field, where later drilling to the Dundee limestone revealed wells making as high as 4,000 bbls. initial, all of them natural.

Lentz & Miller, Inc., Muskegon contractors and operators, already have started a second Salem Township test on the Hardy lease, C N half NE NW section 21, while Muskegon Development and its associate, Muskegon Oil Corp., are planning other tests.

Muskegon County

Completion of another gas test in the Ravenna Township Berea field was delayed last week by rains at West Michigan Consumers Co. No. 1 Flanders-Wood, C SW section 4-9n-14w, now about 800 feet deep with 300 to 400 feet to go for the shallow gas.

A. S. Cochran, independent operator, completed No. 4 Durham, SW SE SW section 15-10n-16w, Muskegon Township, edge test in the southeast corner of the old Muskegon field, dry in the Upper Traverse.

Lentz & Miller were rigged to start drilling No. 1 Baker and others, C NE section 6, Ravenna Township, for West Michigan Co., while Muskegon Development Co. as contractors were waiting to move in for No. 1 Wunch and others, C SE section 4, same township.

J. E. Riley, farm boss; R. L. Nichols, production engineer; and A. W. Sands, assistant superintendent, all with the Texas Co. in California

Isabella County

Chartiers Oil Co. added 152 bbls. daily to the output of Isabella Township, Isabella County field, by completing No. 1 Fitzpatrick, C N half NW NW section 12-15n-4w, at 3,710 feet. Pure Oil Co. boosted the output of No. 2 Ryckman, NE SE NE section 33-15n-6w, Sherman Township, Isabella County, from 450 bbls. naturally in the Dundee to 715 bbls. with 250 gallons.

Midland County

Rex Oil & Gas Co., of Alma and Muskegon, had about 200 feet of oil in the hole at 3,421 feet in the No. 5 Howland, SW SE NW section 23-13n-1w, an edge test in the Porter Township, Midland County, field where it recently completed a similar edge test, No. 1 Huntoon, as a dry hole. Pyramid Oil & Mineral Development Co. got a dry hole in No. 1 Wayne, SE SW SW section 9, Porter Township, a northern edge test.

Arenac County

L. E. Doyle No. 1 Peavy, SE SW SE section 4-20n-4e, Clayton Township, Arenac County, a Hal-Be-Oyle Co. test, reported a hole full of oil from two pay strata with 39 feet of the top of the Dundee limestone encountered at 2,414 feet.

Mee and Wright No. 1 Yawkey, wildcat extension test, C NE SE section 28-18n-4e, Lincoln Township, was dry 8 miles southwest of Standish and scheduled to be plugged despite a show of oil in the Traverse. A light show also was encountered in the Dundee before bottom water condemned the hole.

McClanahan Oil Co. No. 3 Seignious, SW SW SE section 3-20n-4e, Clayton Township, completed at 2,508 feet, or 62 feet in the Dundee for a reported flow of 20 bbls. an hour, or about 400 bbls. daily, two weeks ago settled to 130 bbls. a day on the discovery lease.

Monroe County

A. V. Oil & Gas Co. struck bottom water in No. 2 Roe, SE SE SW section 19-6s-6e, in the Dundee Township, Monroe County, Trenton limestone field and was dry at 2,130 feet.

Ionia County

Operators were watching Boston Oil & Gas Co. No. 1 Marshall, NW NE SW section 16-6n-8w, Boston Township, Ionia County, as it neared completion in the central section of lower Michigan.

New Locations

Last week brought forth another flood of new state permits to drill, 29 in all, including 26 for the Buckeye Township, Gladwin County area, on a gas test for Belvidere Township, Montcalm County, one a wildcat oil test in section 32, New Haven Township, Gratiot County, where the Mary M. Cushman No. 1 of E. J. Posselius, C NE SW section 3-10n-4w, was drilling into the Michigan Stray gas sands, and the third another attempt by the Jetter Development Co. to establish commercial oil production in the Vickerville area in section 34, Evergreen Township, Montcalm County.

Of the 26 permits for Buckeye tests, 16 are for the northeast sector and 10 for the Oard, or southeast section. Two in the northeast sector will be outposts, the American Drilling Co. No. 1 Soldan in section 12 and the J. V. Wicklund Development Co. test in the northeast quarter of section 12, farthest southeast test yet staked out in the so-called Wicklund-Buckeye pool. Inside and offset tests dominate the 10 southeast sector locations.

Fortney Oil Co. was moving in to test the Gray

(Continued on Page 86)

RED BALL CUTTING SERVICE

15 YEARS

doing one job well

hasn't made us perfect, but has given us undisputed leadership in the field of recovering pipe. You're out of trouble quicker and at less cost when you call the RED BALL SERVICE.

J. S. Abercrombie Co.
21st FLOOR GULF BLDG.
HOUSTON – TEXAS

Standco
NO-SMOKE
USE STANDCO BRAKE LINING
for the easiest brake known. It "feeds off" evenly. Standco never scores brake rims. See page 1636, Composite Catalog.
STANDARD BRAKE LINING CO.

Want to STEP AHEAD?

Reading important oil books is the surest route to

SOLID SUCCESS

For a FREE list of such oil books just address the

Book Dept.
THE OIL AND GAS JOURNAL
Tulsa

Among Gulf Coast Drilling Contractors

Cron & Gracey have abandoned Shell Petroleum Corp. No. 2 Maco Stewart in Galveston County at 6,800 feet; are rigging up on a new test in the Gillock area for Stanolind Oil & Gas Co. and are coring at a critical depth on a Barnsdall Oil Co. wildcat near Rockport in Aransas County. Other activity is reported at South Houston for Stanolind Oil & Gas Co., Manvel for the Texas Co., Placedo for Shell Petroleum Corp., Flour Bluff for Humble Oil & Refining Co., Iowa for Shell Petroleum Corp. and at Evangeline and Lafourche parishes for Continental Oil Co. and Fohs Oil Co.

George Echols recompleted his No. 3 Bennett, 1 mile west of the Heyser field in Victoria County and the well is shut in after beginning to flow distillate. His No. 4 Bennett, 500 feet northeast, has been spudded. He has one rotary in the Flour Bluff field for the Gem Oil Co. and is completing another for the Fohs Oil Co. in the Gillis field.

Glenn H. McCarthy completed another good producer in the West Beaumont field for himself when his No. 4 Longe flowed 411 bbls. a day through a quarter-inch choke. He has moved over for his No. 5 Longe and has two rigs running in the Amelia field to the south for the Humble Oil & Refining Co.

Nicklos Drilling Co. has cemented surface casing on No. 4 Miller and is rigging up on No. 1 L. L. Welsh for Continental Oil Co. in the Tepetate field. In the Valentine field for the Pan American Production Co., No. 4 Harang is being completed at 7,120 feet, No. 5 Harang is drilling below 5,300 feet and No. 3 Harang is bottomed at 7,410 feet.

Smith & McDannald are nearing the 10,000-foot horizon on a wildcat test in Jefferson Davis Parish for Stanolind Oil & Gas Co., have one rig operating for Pure Oil Co. in the Dickinson field and are recompleting Shell Petroleum Corp. No. 3 Community in the Jennings field in Acadia Parish. In the meantime, two other rotaries are running at South Houston for Stanolind Oil & Gas Co., one at Louise for Pure Oil Co., four at Long Lake for Tide Water Oil Co. and one at St. Martinsville for the same company.

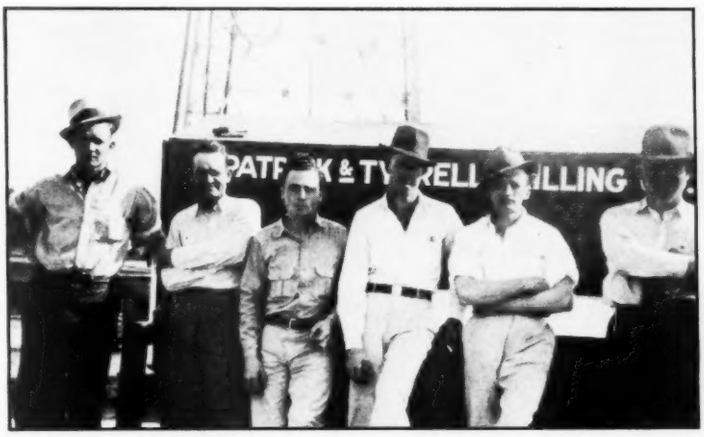
Loffland Brothers have rigged up at Shepherds Mott in Matagorda County for Continental Oil Co., have two rigs running for the same company at Tepetate in Acadia Parish and have reached a depth of 10,000 feet on a wildcat for the same company on the Citrus Grove Prospect in Matagorda County. Other activity is reported from the west Beaumont fields, where two rotaries are operating for Stanolind Oil & Gas Co.

Ben (Bud) Coyle received a contract from the Herton Oil Corp. for No. 8 Banta at the Jeanerette field, and he has two rigs running in the field for the same company, located on No. 1 Banta-Roanes and No. 6 Carter.

Thompson Brothers completed No. 3 Wing in the Segno field in Polk County for J. K. Dorrance and received a contract for No. 4 Wing. In the same field H. B. Jordan drilled No. 1 Kirby Lumber Co. to the lower Conroe sand at 5,600 feet and is plugging back for a production test in the upper sand just above 5,202 feet, at which depth it showed for a producer several weeks ago. The showing of this test, which is about a half mile east of production, apparently confines the field to a comparatively small area.

There were 38 new locations reported for the Texas Gulf Coast the past

(Continued on Page 98)



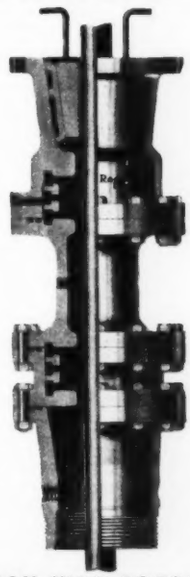
Day tour of Patrick and Tyrell drilling contractors of Oklahoma City who are operating a large diesel-electric rotary outfit, north of the town of Welch in Jefferson Davis Parish for the Louisiana Crusader Oil Co. R. V. Roberts, Jack Calloway, Leo Marshal, F. E. Davis, C. M. Steen and E. M. Arnold

REED'S
'B-R'
DRILLING BIT WITH
WIRE LINE RETRACTABLE
CORE BARREL

REED 'B-R'
Drill Collar and 3-Blade Drilling Bit with Core Barrel in position

HARD FORMATION HEAD
(INTERCHANGEABLE WITH SOFT FORMATION HEAD)

REED
ROLLER BIT CO.



REGAN HIGH-PRESSURE OIL SAVER

For inserting or pulling tubing or casing under pressure. Controlled entirely by the well pressure, it requires no other actuating means. Available for all sizes of tubing or casing from 2" to 11¾".
Ask for Bulletin.

Regan
Forge & Engineering Co.
Plant and General Offices
San Pedro, Cal.
P. O. Box 150
Mid-Continent Office: 1502 Maury St., Houston; Oklahoma: Mid-Co Tool & Supply Co., Oklahoma City; Kansas Rep.: Bovaird Supply Co., Wichita; New York City Office: 17 Battery, G. R. Woods, Mgr.

East and East Central Texas

By
L. E. BREDBERG

HIGH GAS PRESSURE DELAYS OPELIKA WELL COMPLETION

DALLAS, Tex., Apr. 26—The new Trinity strike made last week near Opelika in the northeastern corner of Henderson County, may not be completed for some time due to high gas pressure causing trouble to the operators, Humble Oil & Refining Co., Tide Water Associated Oil Co. and Seaboard Oil Co.

The 4½-inch drill pipe was pulled about 35 feet off bottom, or to 7,160 feet where it froze, and with such a heavy gas pressure to combat, the operators decided to cement at that depth. Cement will set until about April 27 when they will try to mill or shoot off the bit in order to drill out the plug and test the well which showed 33 gravity oil, with a large volume of gas at the total depth. Only 1,771 feet of 13⅜-inch casing was set in the hole, the operators deferring to set pipe on top of the Georgetown as is usually done in drilling these Trinity tests, and as the drill pipe could not be pulled from the hole after it froze, it is being substituted for casing, which is some times done in such situations.

Last week it was reported the formation from which the oil and gas was coming was the Glen Rose, lower member of the Trinity, but now there is doubt as to the formation, some thinking it is lime in the anhydrite section, above the Glen Rose, although the massive anhydrite section is said not to have been logged, which leads to the belief that part of that section could have been faulted out in this area.

The well is in the W. P. Wyche Survey, about 1½ miles northwest of the town of Opelika. The town of Athens is again witnessing an influx of oil men as during the lease play around the LaRue structure in the eastern part of Henderson County several years ago, this structure to get a deep test in the near future by the American Liberty Oil Co. and E. B. LaRue, probably in subdivision 10 of the Phillips Jackson Survey, about 2 miles west of the town of LaRue.

The strike is not located on a fault line as are the Talco and Sulphur Bluff fields in Titus-Franklin and Hopkins counties, consequently the play is not contained along any specific trend, but is branching out although running mostly south and southwest through the LaRue, Baxter domes and to the Blackfoot area where a Trinity test is now drilling below 8,625 feet. A deep test scheduled for the western part of the county is to be put down by W. McDougall of Tyler, who has 2,500 acres under lease about 2½ miles north of the Cayuga field which extends over into southern Henderson County from northwestern Anderson. This new deep test will be drilled on Trinity Farm Securities lands in the H.&T.C. Survey, and southeast of Trinidad.

This is the first strike made in the East Texas district since the Sulphur Bluff field was brought in last June in Hopkins County, although a number of good looking structures have been given deep tests to no avail. It is sure to make some kind of a commercial producer.

When this well is completed under handicap, with the drill pipe in the hole, the operators will no doubt put down a second test nearby, which will give more information as to the formation. Woodbine exploratory work receives but little attention in the district now, Trinity production being most sought for. The eastern flank of the East Texas field, extending from northern Gregg through Rusk County, is assuming interest from a deep testing standpoint since three tests are slated along this trend. Humble Oil & Refining Co. is expected to move its heavy rig from location on the northeast flank of the Van field in Van Zandt County as soon as that test is completed, to test a large block held by it and the Gulf Oil Corp. southwest of Longview and east of the Gregg County part of the East Texas field. Another deep test is slated for the Tatum area and a third is rumored for this trend.

Barnsdall Oil Co. has awarded contract to Cary Drilling Co. for a 5,000-foot test in the northwest corner of the Swanson heirs' 883-acre tract in the Richard Duty Survey, a little north of Jarvis, and east of Palestine. It is a half mile south of a test drilled 10 years ago by Humble Oil & Refining Co. Barnsdall has 2,000 acres blocked by Martin Davey, Jr., and W. E. Thompson of Palestine. It will be about 37 miles, nearly due south of the Opelika discovery.

Outlets for Opelika

If the Opelika discovery proves commercial, pipe line outlet will have to be considered. Magnolia Pipe Line Co.'s 12-inch from the East Texas district to Corsicana runs within 7 miles south of the well and Pure-Van Transportation Co.'s 8-inch from the Van Field to Smiths Bluff runs within 8 miles northeast of the discovery. The Cotton Belt Railroad passes through Opelika.

Wildcat Tests

A. N. Mabry is shut down on a newly started test on the J. T. Jones lands in the Graves Survey, 1 mile south of Mount Calm in Hill County, one of the first tests in this county in a long time.

In Houston County E. B. Germany and others have a derrick on the E. M. Young farm, in the J. J. Thomas Survey, near Lovelady.

Carpenter Oil Co. of Fort Worth has erected a derrick on the Gillis farm, between Brashear and Cumby, in the J. L. Worsham Survey, southwestern part of Hopkins County. It will be a Trinity test in search of the Paluxy sand which pays off about 30 miles to the northeast in the Sulphur Bluff field. Hughes and Williams have staked location in this neighborhood on fee lands in the Agaton Caro Survey, about 6 miles southeast of Brashear. These operators are from Washington, D. C.

In Lamar County, Cooper Brothers and others are drilling around 600 feet in No. 1 L. P. Hayes, in the Luke Roberts Survey, 1 mile west of Deport and 600 feet south of the old Doyle-Jondean No. 1 Guest dry hole.

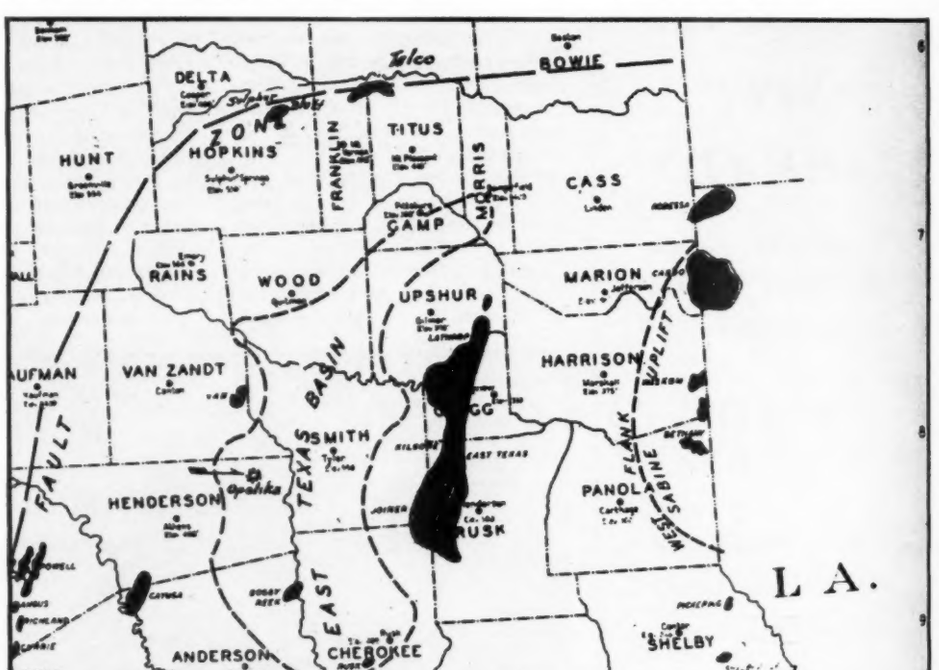
J. G. Mayo is moving in rig for a Trinity test on the S. C. Sanford lands in the W. A. Corder Survey, 10 miles east of Mount Enterprise in Rusk County, Pure Oil Co. having abandoned a deep try on its Mount Enterprise block last year at a total depth of 7,799 feet. Elevation of that test was 563 feet and it topped the massive anhydrite at 5,945-6,167 feet and Lower Glen Rose at 6,167-7,323 feet, entering the Travis Peak at the last depth.

EAST TEXAS COMPLETIONS

Gregg County

W. D. Ambrose No. 5 Jones, 3,585-3,655 feet, 75 bbls. per hour; No. 6 Jones, 3,578-3,650 feet, 75 bbls. per hour. Arkansas Fuel Oil Co. No. 4-D McKinley, 3,571-96 feet, 19 bbls. in 15 minutes. Barnsdall and Sun Oil Co. No. 18 Bingham, 3,506-17 feet, 15 bbls. in 15 minutes. B. D. Clower and others No. 1 Whittaker, 3,492-3,521 feet, 60 bbls. per hour. General Crude Oil Co. No. 3 McGrede, 3,629-31 feet, 20 bbls. in 15 minutes. Gulf Oil Corp. No. 14 Bacle, 3,630-42 feet, 35 bbls. per hour. Humble Oil & Refining Co. No. 27 Mackey, 3,601-04 feet, 22 bbls. per hour. Kewanee Oil Co. No.

(Continued on Page 97)



Relation of new potential gas and possible Trinity oil field in the Opelika area in northeastern Henderson County to other fields in the district

Kansas Developments

By
DAL DALRYMPLE

RUSSELL COUNTY SETS FAST PACE IN FIELD OPERATIONS

Russell County set the pace in number of completions for Kansas last week and continues to share with Rice County the distinction of having more active field operations than other counties of the state. Nine oil producers with initial yield of 14,442 bbls. daily were completed in Russell County, and several others were near completion. Rice County, which led in number of completions the two previous weeks, had only four official completions the past week, although several wells were in the pay and due for potential tests.

The Trapp field of southern Russell County continues to be one of the pace-setting areas of the state, some big wells being completed there. The Kansas Corporation Commission has ruled that 12-hour initial production tests may be made in the Trapp area hereafter, instead of 24-hour tests.

A. H. Witt, Russell oil operator, has another big Topeka lime well on his fee lease 2 miles southeast of Gorham, Russell County. It flowed at the rate of 100 bbls. of oil an hour on 24-hour test after topping the pay at 2,889 feet. It is Mr. Witt's seventh producer on his own farm.

Diller Oil & Gas Co. completed two more large Siliceous lime producers in the Key pool, southern Elk County.

Max Steinbuchel, Wichita operator, was due to spud a test on the Brammer farm in section 21-33-13, Chautauqua County, 1½ miles west of a large Siliceous lime well recently completed for an estimated 3,000 bbls. Location is on a block of 1,000 acres.

New oil producing areas were opened south of the Stebbins pool in Rooks County and between the Van Noy and Wiede areas in Woodson County. A new gas area was opened in Kearny County.

Russell County

One-half of the 10 completions in Russell County was in the Trapp-Coralena district. The largest producer was W. I. Southern, Inc., No. 8 Sellens heirs A, NW NE SW section 30-15-13w. It had Siliceous lime at 3,274-77 feet, total depth, was acidized and made potential of 2,570 bbls. Same operators No. 7 Sellens heirs, SE SE SW section 29-15-13w, had Siliceous lime at 3,327 feet; total depth, 3,330½ feet; acidized and made potential of 2,463 bbls. of oil.

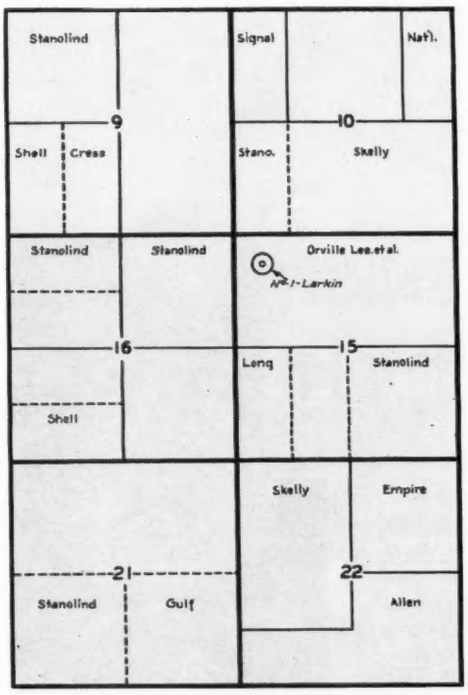
Phillips Petroleum Co. No. 6 Hoffman, SW NW SE section 31-15-13w, made potential of 2,552 bbls. of oil after acidizing Siliceous lime topped at 3,302 feet; total depth 3,305 feet. Coralena Oil Co. No. 3 Sellens, NW SW NW section 29-15-13w, had Siliceous lime at 3,255-70 feet, total depth; acidized and made potential of 1,639 bbls. of oil, with 20 to 30 per cent water. Gulf Oil Corp. No. 2 Michaelis, NE NE SW section 32-15-13w, topped Siliceous lime at 3,294 feet, was bottomed at 3,305 feet, acidized and made potential of 1,151 bbls. of oil.

In the Gorham area, Skelly Oil Co. No. 3 Dumler, NW SW NE section 1-14-15w, found Siliceous lime at 3,303 feet; total depth, 3,313 feet; and made potential of 686 bbls. of oil, cutting 2 per cent water, after acid treatment. Transwestern Oil Co. No. 6 Polcyn, NE SE SE section 10-14-15w, had Gorham sand at 3,260-63 feet, total depth, making potential of 818 bbls. of oil. Same company's No. 3 Polcyn, NE NW SW section 11-14-15w, made potential of 1,077 bbls. of oil from Gorham sand at 3,271 feet; total depth, 3,280 feet.

National Refining Co. No. 2 West Reinhardt A, SE NE NW section 36-14-15w, Big Creek area, had Gorham sand at 3,186 feet; total depth, 3,204 feet, and made potential of 1,486 bbls. of oil.

Empire Oil & Refining Co. and Indian Territory Illuminating Oil Co. No. 1 Atherton, C W half W half SE section 25-13-15w, topped Siliceous lime at 3,327 feet, had a hole full of water at 3,358 feet, total depth, and was abandoned.

New work in Russell County: Transwestern Oil Co. No. 4 William Polcyn, NW SW SW section 11-14-15w, building rig; same company's No. 5 William Polcyn, SW cor. section 11-14-15w, building rig; same company's No. 1 Katharina Polcyn, NW cor. section 14-14-15w, rig; Skelly Oil Co. No. 3 Ehrlich, SE SW NE section 25-14-15w, rig; Transwestern Oil Co. No. 7 Helen Polcyn, SE cor. section 10-14-15w, set 10-inch, casing at 615 feet, waiting on cement; Empire Oil & Refining Co. No. 2 Vaughn, SE SW SW section 17-14-14w, rig; same company's No. 3 Vaughn, NW SW SW section 17-14-14w, location; same company's No. 14 Crawford, NW SE SW section 2-14-15w, cellar; W. I. Southern, Inc., No. 2 Sellens heirs B, SW SE NW section 30-15-13w, location; Derby Oil Co. and Reserve Petroleum Co. No. 3 Michaelis, NE SW NW section 31-15-13w, rigging up rotary; same operator's No. 7 Michaelis, SW SE NE section 31-15-13w, drilling at 518 feet; Empire Oil & Refining Co. No. 5 Sellens, SW cor. 30-15-13w, the No. 6 Sellens in NW SW SW section 30, the No. 7 Sellens in SW NW SW section 30 and No. 8 Sellens in NW NW SW section 30-15-13w, locations.



—Mid-Continent Map Co., Wichita.

Orville Lee and associates have started a wildcat in section 15-16-8w, northeast of the Lorraine pool, Ellsworth County

Reno County

Shell Petroleum Co. completed another good producer in the Lerado field, Reno County, at No. 5 Reese, SW cor. section 11-26-9w. It flowed 1,055 bbls. of oil in six hours after acid treatment, making potential of 3,999 bbls. Production was from Viola lime topped at 4,133 feet; total depth, 4,140 feet. The same company's second Lerado producer to be completed the past week was No. 1 Adkins, NE NW SE section 15-26-9w. It topped Viola lime at 4,143 feet; was bottomed at 4,146 feet; flowed 645 bbls. of oil and 160 bbls. of water in six hours, and made potential of 2,447 bbls. of oil.

Carter Oil Co. No. 2 Hogan, C E half E half SW section 19-24-4w, Burrton area, found Chat at 3,328 feet; total depth, 3,391 feet; and pumped and flowed 230 bbls. of oil in 18 hours. It was acidized and on potential test pumped and flowed 814 bbls. of oil and 100 bbls. of water in 24 hours.

Phil-Han Oil Co. and others No. 1 Tucker, NW SW SW section 20-24-4w, had Chat at 3,336 feet; was bottomed at 3,389 feet; acidized and made potential of 375 bbls. of oil, with 175 bbls. of water.

Magnolia Petroleum Co. No. 1 Wiese, SE SE NE section 8-26-4w, Hilger sector, was completed as a water disposal well at 4,109 feet, total depth.

New work in Reno County: Phillips Petroleum Co. No. 1 Astle Island, NE SE NE section 19-24-4w, location; Indian Territory Illuminating Oil Co. No. 2 Mueller, C N half N half NE section 30-24-4w, rigging up rotary; Ohio Oil Co. No. 2 Mueller, NW SW NE section 30-24-4w, moving in material; Dillers Gas No. 1 Yoder, SW NW SW section 27-24-5w, rigging up rotary; Empire Oil & Refining Co. No. 5 Mauck, SE NW NW section 15-26-9w, location.

Estimated Daily Production

Estimated daily average production of Kansas for the week ending April 24, and for the preceding week, was as follows:

	Barrels	
	Apr. 24	Apr. 17
Oxford City	2,300	2,400
Burrton	15,875	16,150
Ritz-Canton	5,500	5,550
Graber	2,975	2,900
Hollow-Nikkel	3,700	3,775
Voshell	2,900	2,925
Wellington	3,150	3,425
Ellsworth County:		
Lorraine-So. Lorraine	5,475	4,850
Other pools	1,320	995
Rice-Barton counties:		
Bloomer	4,725	4,075
Chase	8,875	9,075
Geneseo	2,650	2,100
Raymond	2,400	3,800
Silica	21,450	20,200
Keesling	2,675	2,000
Hauschild	4,525	3,200
Miscellaneous Rice	8,475	7,740
Miscellaneous Barton	4,295	4,565
Russell County:		
Fairport	2,340	2,335
Gorham-E. Gorham	3,210	3,160
Russell	2,500	2,415
Sullivan	6,550	6,700
Trapp	7,250	7,260
Miscellaneous Russell	8,355	6,915
Sedgwick County:		
Valley Center	1,170	1,205
Greenwich	845	915
Miscellaneous	1,865	1,930
Ellis County:		
Bemis	3,900	3,575
Miscellaneous Ellis	1,890	1,850
Kingman County	865	640
Stafford County	3,080	2,585
Greenwood County	9,500	9,500
Butler County	17,680	17,650
Other fields	23,660	24,215
Total Kansas	197,925	192,575

Rice County

Mid-Continent Petroleum Corp. No. 5 Wood, NE NW NE section 4-20-10w, Schartz area, Rice County, topped Siliceous lime at 3,313 feet and was bottomed at 3,323 feet. It swabbed 898 bbls. of oil in 11 hours and after treating with acid made potential of 2,581 bbls.

Stanolind Oil & Gas Co. No. 14 Specht, SW NE SW section 6-20-10w, Silica field, made potential of 1,696 bbls. of oil after acidizing Siliceous lime topped at 3,316 feet; total depth, 3,325 feet.

In the Chase area, Ohio Oil Co. No. 9 Proffitt, NE NE NW section 5-20-9w, was acidized and made potential of 678 bbls. of oil. Top of Siliceous lime was 3,222 feet; total depth, 3,228 feet.

Shell Petroleum Corp. and others No. 3 Tobias, SW SW NE section 6-19-9w, Hafferman area, had Siliceous lime at 3,218 feet; was bottomed at 3,240 feet; swabbed 19 bbls. of oil in 10 hours; was acidized and made poten-

tial of 1,696 bbls. of oil, with 110 bbls. of water, in 24 hours.

First reports of new work in Rice County follow: Bartlafonte No. 1-A Freeman, SE NE SE section 4-21-6w, an old well, rigging up to deepen; Continental Oil Co. No. 1 Bryant, C E half E half SE section 8-18-7w, location; Continental Oil Co. and Empire Oil & Refining Co. No. 4 Nickel, SW NE SW section 13-18-8w, location; Atlantic Refining Co. No. 2 Patton C, SE SW SW section 5-21-7w, moving in material; same company's No. 2 Mills, NE NW NW section 8-21-7w, rig; Sunflower Oil Co. No. 2 Stange, NE SW NW section 16-21-7w, rig; Ohio Oil Co. No. 10 Proffitt, NW NE NW section 5-20-9w, rig; Republic Natural Gas Co. No. 3 Wendell, NW SE SE section 32-19-10w, rigging up rotary; same operator's No. 4 Wendell, NE NE SE section 32-19-10w, moving in material; J. H. Tatlock No. 3 Poncin, NE NW NE section 5-20-10w, rigging up rotary; same operator's No. 4 Poncin, SE NW NE section 5-20-10w, moving in material; Gulf Oil Corp. No. 2 Schmidt, NW SE SE section 6-20-10w, building rotary rig.

Atlantic Refining Co. No. 2 Hughes, SW SE SE section 6-21-7w, Hauschild-Saxman-Theede area, topped Conglomerate at 3,325 feet; total depth, 3,333 feet; flowed 142 bbls. of oil the first hour, but was not completed. J. H. Tatlock No. 1 Bayer, NW NE NW section 7-20-10w, had Siliceous lime at 3,297 feet; total depth, 3,300 feet, and pumped at the rate of 15 bbls. of oil an hour. Stanolind Oil & Gas Co. No. 2 Panning, NE SW NW section 33-19-10w, swabbed 81 bbls. of oil in one hour after acid treatment; top of Siliceous lime was 3,280 feet; total depth, 3,291 feet. Same operator's No. 8 Mitchell, SE NE SW section 32-19-10w, was bottomed at 3,306 feet and 1,200 feet of oil rose in the hole in one and one-half hours.

Ellsworth County

One producer was completed in the Ellsworth County extension of the Bloomer pool. It was Gulf Oil Corp. No. 3 Grizzell, SW NW NW section 31-17-10w, which had Siliceous lime at 3,261-70 feet, total depth, was acidized and made potential of 1,848 bbls. of oil.

New work in Ellsworth County was reported for the first time as follows: Phillips Petroleum Co. No. 1 Patzner, SW NW SW section 30-17-10w, rig; Gulf Oil Corp. No. 5 Grizzell, NW cor. section 31-17-10w, building rotary rig; Continental Oil Co. and Empire Oil & Refining Co. No. 9 Janssen B, NE SW SW section 34-17-8w, location; same operator's No. 3 Rolfs, NW NE NW section 34-17-8w, location; Phillips Petroleum Co. No. 2 Carter-Melchert, NE NW SE section 23-17-9w, an old well, rigging up to deepen.

Barton County

Largest of two new producers in Barton County was Magnolia Petroleum Co. No. 4 Roetzel, SW SW NE section 24-20-11w, Peter pool. It made potential of 1,386 bbls. of oil from Siliceous lime topped at 3,248 feet; total depth, 3,258 feet.

In the Bloomer pool, Yarnell & Spencer No. 3 Patzner, NW NE SE section 36-17-11w, found Kansas City lime at 3,035 feet, was bottomed at 3,071 feet and made potential of 625 bbls. of oil.

Rose Spring Drilling Co. and others No. 2 Rick, SE SW SW section 1-19-11w, in the Rick area, was dry and abandoned in Siliceous lime at 3,384-3,425 feet, total depth.

The following new work in Barton County was reported: Indian Territory Illuminating Oil Co. No. 1 Bryant, SW SW NW section 25-20-11w, moving in material; Stanolind Oil & Gas Co. No. 2 Werries, C NW SW section 10-20-11w, location; Magnolia Petroleum Co. No. 6 Roetzel, NW NW SE section 24-20-11w, cellar; Continental Oil Co. No. 2 Ainsworth A, NE SE NE section 33-16-13w, location; Yarnell & Spencer No. 5 Patzner A, SW SW SE section 36-17-11w, location; Sinclair Prairie Oil Co. No. 1 Davidson A, NW NE NW section 9-16-11w, location.

Ellis County

British American Oil Producing Co. No. 5 Bemis, NE NW SW section 22-11-17w, is the newest completion in the Bemis pool, Ellis County. It had Siliceous lime at 3,417 feet, was bottomed at 3,426 feet, and produced 2,471 bbls. of oil on 24-hour potential test.

Lario Oil & Gas Co. No. 2 Marshall, NW NW SE section 36-11-18w, made potential of 1,072 bbls. of oil after acid treatment. It found Siliceous lime at 3,642-51 feet, total depth.

Bridgeport Machine Co. No. 1 Kraus, NE NE SE section 21-14-19w, topped Siliceous lime at 3,752 feet; total depth, 3,785 feet, with salt water showing; plugged back to 3,765 feet and made potential of 270 bbls. of oil daily.

Three new operations in Ellis County were reported. Margay Oil Co. No. 4 Bemis C, SW SE SW section 22-11-17w, was a location. Texas Co. No. 2 Bemis A, SE NE NE section 28-11-17w, was building rotary rig, and same company's No. 3 Bemis A, NW NE NE section 28-11-17w, was a cellar.

Rooks County

Snowden & McSweeney No. 1 Hindman, C E half NW section 35-7-17w, wildcat, opened a new producing area in Rooks County, about three-fourths of a mile south of the one-well Stebbins pool. It topped anhydrite at 1,237 feet; Howard, 2,772 feet; Kansas City lime, 3,023 feet; had a hole full of water at 3,180 feet, total depth; plugged back to 3,118 feet; swabbed 40 bbls. of oil in 24 hours; acidized, and was completed as a 20-bbl.-per-day pumper.

Twin Drilling Co. No. 1 Doughty, SW cor. section 15-8-19w, an old well, was deepened from 3,225 feet to Siliceous lime at 3,428 feet; total depth 3,490 feet, and was dry and abandoned.

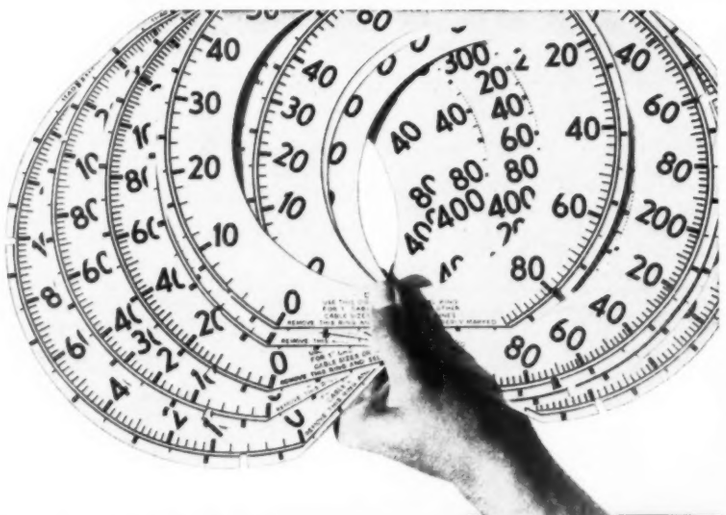
Stafford County

A new producer was completed in the Richardson pool, Stafford County, at Stanolind Oil & Gas Co. No. 1 Spangenberg, SW cor. section 29-22-11w. After topping Siliceous lime at 3,559 feet and stopping at 3,580 feet, total depth, it was acidized and made potential of 1,553 bbls. of oil. Same company's No. 5 Komarek, SE cor. section 30-22-11w, an old well, was deepened 5 feet to 3,585 feet, total depth, failed to increase production and was recompleted.

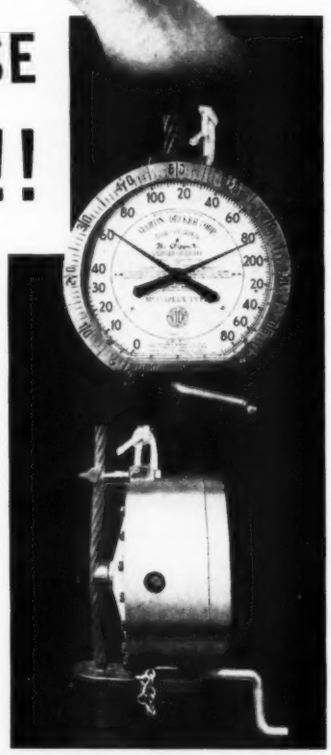
Empire Oil & Refining Co. No. 1 O'Connor, NE cor. section 17-24-15w, wildcat, topped Kansas City lime at 3,653 feet; Viola lime, 4,010 feet; Simpson, 4,040 feet; Siliceous, 4,083 feet; set 8-inch casing at 4,100 feet, drilled the plug and sprayed sulfur water, with 1,540,000 feet of gas; had a hole full of water and was abandoned at 4,133 feet, total depth.

McPherson County

Ohio Oil Co. No. 11 Decker, SE NE NE section 20-



YOU CAN'T COMPROMISE WITH ACCURACY!!



Your weight indicator is either accurate or not accurate . . . . there is no compromise, and "half accuracy" is not enough! In the Martin-Decker "Clipper" you get the complete custom-made accuracy of a weight indicator to fit your particular need, for in the "Clipper" you have always at hand a choice of calibrated dial rings to meet every condition. Ten easily changed dials nested within the water-tight case allow direct readings in pounds or points for any line (whether 1", 1⅛" or 1¼" for drilling, or ¾" or ⅞" for production work) and any "stringup" from 4 to 10 lines, eliminating haphazard guess work and estimations.

This is only one of the many features that make the new "Clipper" the most accurate weight indicator. For complete information, write for new literature.

"LABORATORY ACCURACY WITH OILFIELD RUGGEDNESS"

THE WEIGHT INDICATOR

MARTIN-DECKER CORPORATION

LONG BEACH CALIFORNIA

San Joaquin Valley: A. F. McQUISTON, Bakersfield, California

Mid-Continent Distributor: REED ROLLER BIT COMPANY, Houston, Texas

21-1w, Graber pool, McPherson County, topped Hunton lime at 3,312 feet, was bottomed at 3,344 feet, acidized and made potential of 884 bbls. of oil.

Three new operations in McPherson County were reported. Continental Oil Co. No. 5 Blair, NE SW SW section 21-21-1w, was a cellar. Joe Rush and others No. 3 Robinson, SW cor. section 10-19-2w, was rigging up. C. E. Ash No. 1 Broman, NE NE NW section 19-17-4w, wildcat, was a cellar.

Harvey County

Dickey Oil Co. No. 1 Master, NE NE SW section 14-23-2w, Halstead area, Harvey County, topped Chat at 2,938 feet; total depth, 2,961 feet; pumped 150 bbls. of oil daily, with 50 per cent water; plugged back to 2,959 feet; pumped 3 bbls. of oil with 40 bbls. of water daily, and was abandoned.

Bell Oil & Gas Co. and others No. 1 Austin, SE NE NE section 28-23-1e, wildcat, was moving in material. E. J. Shaffer and E. B. Shawver No. 1 Hege, NE NE SE section 26-22-2w, wildcat, was building rotary rig.

Butler County

Phillips Petroleum Co. and associates No. 2 Moore, SE SW SE section 1-25-3e, Moore pool, Butler County, pumped 251 bbls. of oil in 24 hours after acid treatment and was completed. Top of lime was 2,656 feet; total depth, 2,672 feet.

New work in Butler County: Sinclair Prairie Oil Co. No. 1-A Sutter, SW SW NW section 18-28-7, drilling at 300 feet; Westgate-Greenland Oil Co. No. 1 Doornboss, NW NW SW section 18-28-7, building rig; Simpson Oil Co. and others No. 1-A Dennis, NE NE SW section 15-26-6, wildcat, location; Clark Schwartz No. 1 Moore, SW SW NW section 32-24-4, machine; Empire Oil & Refining Co. No. 25 Lathrop, NE SE NW section 17-23-4, rigging up machine; same company's No. 26 Lathrop, NE SE SW section 17 and No. 27 Lathrop, NE SW NW section 17-23-4, were locations; Kahn and others No. 1-A Madden, SW SW NE section 27-23-4, wildcat, was drilling at 2,100 feet.

Considerable activity is reported and more planned in the new area recently opened at A. M. Landon and others No. 1 McCaig, section 13-28-6, southern Butler County. The former governor has placed orders for casing and pumping equipment for six wells to be drilled on his 2,500-acre lease block.

Woodson County

Chris L. Sheedy and others No. 5 Lee, SE SW NE section 28-25-14, Woodson County, had sand at 1,433-77 feet, total depth; was shot and production was estimated at 75 bbls. of oil daily. Hyde and others No. 1 Murphy, SE NE NE section 30-25-14, had Bartlesville sand at 1,362 feet; lime, 1,474-1,500 feet, total depth, with a hole full of water, and was abandoned. Reed and others No. 1 Piper, NW NW SE section 19-23-15, wildcat, opened a new producing area in Woodson County, between the Van Noy and Wiede areas. It topped Burgess sand at 1,525 feet; lime, 1,535 feet; total depth, 1,575 feet; acidized and pumped 35 bbls. of oil daily.

C. L. Sheedy and associates were moving in machine at No. 1 College, NW NE SE section 28-25-14, the only new test reported in Woodson County.

Coffey County

Max Reynolds No. 2 Demler, NE NW SE section 6-23-15, Coffey County, had Peru sand at 1,138-50 feet; Mississippi lime, 1,508 feet, and was dry and abandoned at 1,540 feet, total depth.

Franklin Drilling Co. No. 6 Rossillion, C W half W half SW section 6-23-15, was a machine.

Marion County

Western Kansas Oil & Refining Co. and others No. 1 Suderman, SE SW NW section 22-20-2e, was location for a wildcat in Marion County.

Elk County

Two new Siliceous lime producers were completed in the Key pool, near Moline in Elk County, by David H. Morgan and Diller Oil & Gas Co. Their No. 2 Cochran, NW NW SW section 25-31-10, had Siliceous lime at 2,281-83 feet, total depth, and oil rose 1,600 feet in the hole in one hour. Potential production was estimated at 1,500 bbls. daily, but as is the custom in the new Siliceous lime areas of Elk and Chautauqua counties, it was not tested and production is held to 50 bbls. daily. Same operator's No. 4 Key, SE SE NE section 26-31-10, had Siliceous lime at 2,269-69½ feet, oil rose 2,000 feet in the hole in five hours, and it was completed as another 50-bbl. producer.

L. H. Wentz and others No. 1 Love, SW SE NE section 35-30-9, Elk County wildcat, had Kansas City lime at 1,600 feet; Chat, 2,299 feet; slight showing of oil at 2,316 feet; and was dry and abandoned at 2,348 feet; total depth.

Diller Oil & Gas Co. No. 5 Key, C W half SW NW section 25-31-10, newest operation in the Key pool, set 8-inch pipe at 730 feet.

Republic Natural Gas Co., of Corpus Christi, Tex., is reported to have staked location at No. 1 Glasscock, SE NE SW section 19-31-11, east of Moline. It is on a 500-acre block assembled by Boris V. Lerke and Ray W. Whorton, Wichita geologists. Surface and subsurface correlations indicate a structure running from the Key pool across the block. Operators believe the Siliceous lime will be found around 2,300 feet, with production similar to that in the Key pool.

Sedgwick County

Continental Oil Co. No. 1 Casey, SW SW NW section 15-25-1e, an old well in the Goodrich pool, Sedgwick County, was deepened to Granite at 4,203-24 feet, total depth, and recompleted as a water disposal well.

Cowley County

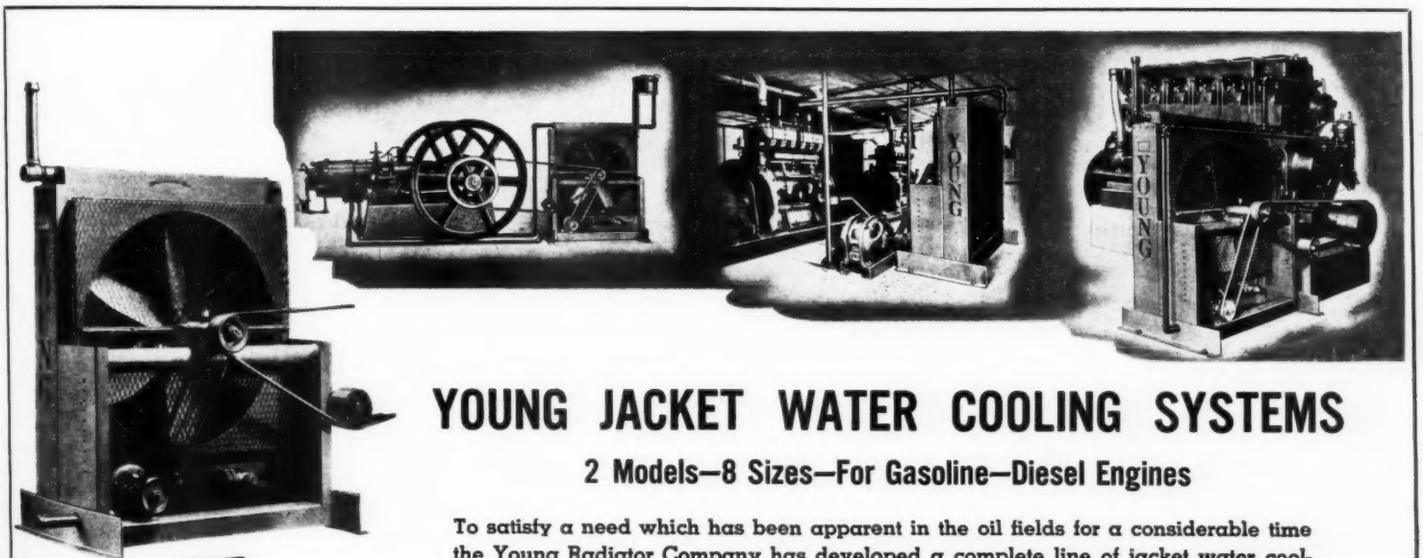
Lloyd, Frost & Study and others No. 1 Wilson, NE NE SW section 33-31-3e, Weathered pool, Cowley County, was officially completed in Siliceous lime at 3,237-59 feet, total depth. It flowed 2,804 bbls. of oil on potential test.

First reports of new work in Cowley County: McCoy, Amerada Petroleum Corp. and Wentz No. 1 Anderson, SE NW NE section 34-34-6, wildcat, rigging up rotary; B. B. Blair, Continental Oil Co. and McKnab No. 1 Miller, NE NW SW section 14-32-5, wildcat, moving in material; Gulf Oil Corp. No. 2 Cairns, SE NW SW section 21-32-5, cellar.

Sumner County

E. B. Shawver and others No. 1 Bryan, C W half W half SW section 36-30-2w, Sumner County wildcat, topped Kansas City lime at 3,104 feet; Chat, 3,747 feet, and was dry and abandoned at 3,830 feet, total depth.

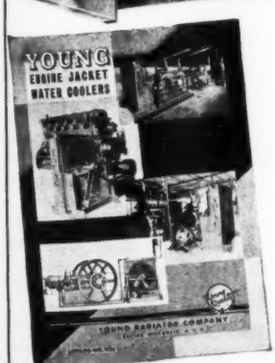
Two new operations in Sumner County were re-



YOUNG JACKET WATER COOLING SYSTEMS

2 Models—8 Sizes—For Gasoline—Diesel Engines

To satisfy a need which has been apparent in the oil fields for a considerable time the Young Radiator Company has developed a complete line of jacket water cooling units for gasoline or Diesel engines, air compressors and other similar installations. The unit is complete in itself with fan, water pump and drive engineered to give the utmost in cooling capacity with the lowest operating cost. The fan drive and pump may be either from pulley on engine shaft or separate electric motor. Sturdily built with brazed copper tanks and heavy structural frame, they are built in a range of sizes from 25 to 125 H.P.



Write for catalogue giving complete engineering data and price list.

C. H. BULL
115 Tenth Street,
San Francisco, California

L. O. STRATTON
404 Spalding Bldg.
Portland, Oregon

YOUNG RADIATOR COMPANY
RACINE, WISCONSIN, U. S. A.

Young Quality

ported. Continental Oil Co. No. 5 Rothrock, NW SW NW section 4-32-1w, was a location. Stelbar Oil Corp. No. 6 Barlow B, SW SW SE section 33-31-1w, was rigging up rotary.

Barber County

Barbara Oil Co. No. 1 Rodgers, SE section 23-33-13w, Medicine Lodge area, Barber County, where oil production recently was uncovered, had a hole full of water and was dry and abandoned at 4,957 feet, total depth. Top of Wilcox sand was 4,950 feet.

Barbara Oil Co. No. 1-27 Holmes, C NW NW section 27-33-13w, Barber County wildcat, was a cellar.

Haskell County

Kuhn Brothers and others No. 1 Meredith, C SW section 10-30-33w, an old Haskell County well, was cleaned out and produced 500,000 feet of gas.

Kearny County

J. L. Murphy No. 1 Campbell, NW NW SW section 32-25-35w, Kearny County wildcat, produced 1,500,000 feet of gas, and was completed at 2,793 feet, total depth.

Grant County

Kansas Oil & Gas Co. No. 1 Stevens, C S half S half S half section 13-30-35w, and United Production Co. No. 1 Rogers, SW SW NE section 24-30-35w, were locations in Grant County.

Eastern Fields

(Continued from Page 70)

grees 45 min., longitude 81 degrees 30 min. Elevation is 969.5 feet.

In Calhoun County, Godfrey L. Cabot, Inc., has made slow progress in the deep test on the Allen Hardman farm in Center district with the tools at 6,035 feet or 40 feet in the Corniferous lime. In this operator's test on the Walter Hoffman farm in Burning Springs district, Wirt County, drilling has been slow due to caves and necessary cementing. The tools are close to 5,400 feet. Carnegie Natural Gas Co. is down 1,200 feet in its deep test on the W. C. Patterson farm.

In Hancock County, the test of John T. Galey on the Rachel Talbott farm in Grant district was shut down on account of lost tools due to a gas blowout from the shale. The tools were recovered and drilling will be resumed.

Oriskany Field

No completions were reported from the Oriskany field in Kanawha County but there are new locations. In Poca district, three-quarters of a mile due east of Sissonville, Godfrey L. Cabot, Inc., has a location for a deep test on the J. C. Fisher and others farm. The elevation is 697.7 feet. Coon Gas Co. has permits for three wells on the Isabella Jarrett farm, three-quarters of a mile north of the S. H. Milam farm.

In Malden district, Godfrey L. Cabot, Inc., has a location for No. 2 Roane Land Co. lease, three-quarters of a mile south of the Benedum & Trees failure on the Slack heirs farm. The elevation is 1,003.70 feet. Owens Illinois Glass Co. has a location for No. 11 L. A. Meyers, 2,600 feet southwest of No. 4,679 United Fuel Gas Co. on the Georges Creek Land & Mining Co. lease.

New Work

In Boone County there are several new locations. South Penn Oil Co. has a location for No. 53 Yawkey & Freeman in Washington district. Owens Illinois Glass Co. has new locations on the following leases: Cassingham Coal Land Co. No. 27; E. C. and C. C. Stollings No. 1; Jacob Chambers No. 3, in Scott district. In Sherman district, Peytona Coal Land Co. No. 31 and 32.

In Braxton County, Pittsburgh & West Virginia Gas Co. has mapped out a large program with locations on the following farms in Birch district: Lewis Bennett No. 2, No. 3 and No. 5; O. J. Bouren No. 3; S. B. Cook No. 2; Burt Dobbins No. 1; E. G. Dunlap No. 1; Parkersburg Mill Co. Nos. 5, 6, 7, 8, 9 and 10; Siesburr & Bennett No. 1; T. R. Stump No. 1; Osburn White No. 1. In Otter district the following locations were made: W. C. Hawkins No. 2; J. C. Carr No. 1; Lewis Bennett No. 4.

In Calhoun County, Lyle S. Ayers has a location on the H. G. Brannon farm in Washington district. Ferrell & Bush have a rig standing for a second test on the L. B. Carroll farm.

In Doddridge County, Hope Natural Gas Co. has a location for No. 3 G. W. Farr, West Union district. In Gilmer County, K. F. Emerich & Co. has a location on the J. A. Jeffries farm in DeKalb district. Carnegie Natural Gas Co. has spudded on the Lee Jarvis farm, Glenville district.

In Lincoln County, Martin Gas Co. will drill on the Wilkerson & Summerson lease in Sheridan district. In Union district, South Penn Oil Co. made a location for No. 8 Richard Woodram farm, and in Duval district for No. 8 Jennie Jones.

Gulf Coast Fields

(Continued from Page 75)

Citrus Grove Prospect in Matagorda County at Continental Oil Co. No. 2 Robbins. The hole was drilled to a depth of 10,363 feet, at which point circulation was lost due to heaving shale, and the operators are trying to get back to bottom. Several wells have been drilled on this prospect and all have been abandoned due to heaving shale.

Three More Wildcats

The most interesting development along the Louisiana Coast was the announcement of three additional wildcats in Cameron, Acadia and St. Landry parishes. On the North Crowley Prospect, 6 miles north of the town of Crowley in section 34-8s-1e, Humble Oil & Refining Co. is building road for No. 1 Federal Land Bank of New Orleans. The prospect comprises the south part of Township 8s-1e; north part of Township 8s-1e; southwest part of Township 8s-2e, and the northwest portion of Township 9s-2w. The diesel-electric rig used in drilling No. 1 Nordyke, recently abandoned below 10,000 feet, is being moved to the location.

In the northeastern part of Cameron Parish on the Southwest Hayes Prospect, Humble Oil & Refining Co. is moving in material for No. 1 Mrs. Katherine Bell Hanzen, in the C of the SE quarter of section 5-12s-6w. The area, referred to as the Chalkley Prospect, is composed of some 7,000 acres, 4,000 of which is controlled by Humble and the rest to the south by Shell Petroleum Corp. In St. Landry Parish, 4 miles southwest of Krotz Springs, location has been made by the Gulf Oil Corp. for No. 1 Haas-Hirsch in section 12-6s-7e.

After an attempt to open production from an upper stratum in the discovery well of the South Roanoke field, Jefferson Davis Parish, Shell Petroleum Corp. No. 1 Joe Sturdivant has been recompleted for a wet gasser through its original perforations at 8,540-50 feet and the fuel will be used for future exploration on the company's large block southwest of the South Jennings field, centering in section 25-10s-4w.

The producing area of the north flank of the old West Hackberry field in Cameron Parish was enlarged by the completion of Stanolind Oil & Gas Co. No. 18 School Land, which is flowing an estimated 500 bbls. a day through a quarter-inch choke. This is considered a new producing horizon for this area, as the well is 800 feet north of a small producer at a shallower depth.

One quarter-mile east of the nearest production at the English Bayou field, Calcasieu Parish, Fohs Oil Co. was swabbing No. 1 First National Bank after it failed to flow from sand at 7,042-46 feet, the total depth. On a drill-stem test it showed 400 feet of oil. It is located on a 40-acre tract in section 13-9s-8w. To the north, in the Gillis area, Texas Co. No. 12 Nickerson flowed 40 bbls. an hour through a three-eighths inch choke from sand bottomed at 6,718 feet. Location is in section 1-9s-8w. Union Sulphur Co. No. 12 Barbe, a deep test which blew out several weeks ago at 9,101 feet, has been abandoned, while the same company's No. 14 Barbe, in section 1, is being tested at a total depth of 6,738 feet. The company is moving in material for No. 15 Barbe and No. 6 Mayo-Reeves in sections 1 and 12, respectively.

Plugging Back on Jennings Dome

On the south flank of the Jennings dome, Acadia Parish, Shell Petroleum Corp. No. 2 Community flowed 20 bbls. of distillate daily through a quarter-inch choke through perforations at 7,260-70 feet. It has been killed to plug back and test a 15-foot section at 7,110-25 feet. In the same area, on the southeast flank, Stanolind Oil & Gas Co. No. 18 Houssiere Latrelle, in section 42, is preparing to test after making a screen setting at 7,005-72 feet, the total depth. On the northwest flank, two wells had reached the testing stage. Lake City Oil Co. No. 2 Jennings Syndicate in section 46 is bottomed at 4,248 feet with 7-inch casing cemented on bottom and a test will be made through perforations in a 25-foot section. In section 45, S. Rhoden and others' No. 1 Iowa-Jennings topped salt at 3,899 feet and is bottomed at 3,916 feet. A string of 6⅝-inch casing has been cemented at 3,840 feet to test a 20-foot section from 3,726-46 feet. If productive these two wells will open a new producing horizon for this particular area. Locations have been made by Superior Oil Producing Co. for No. 2 Iowa Jennings and by Glassel and others for No. 1 McFarlin in section 41.

In the Jeanerette field, St. Mary Parish, Teche Oil Co. No. 1 Bourgois, section 59-13s-8e, has been abandoned at 7,006 feet. Surface casing has been cemented in Herton Oil Co. No. 8 Banta, a new location in section 40-13s-9e.

Jefferson Lake Oil Co. No. 414 State Lake Pigneur, on the Jefferson Island salt dome, Iberia Parish, cleaned hole to bottom and is coring ahead in broken sand and shale showing oil below 6,967 feet and will probably make a production test during the week. The well showed for a producer several weeks ago at 6,940 feet.

On the Marchland salt dome, Lafourche Parish, William Helis No. 1 City of New Orleans, in section 19-23s-23e, cored to a total depth of 7,607 feet and 7-inch casing has been cemented on bottom. A production test is scheduled to be made after the operator does additional geophysical work.

Coastal Louisiana's two 11,000-foot wildcats in St. Mary and Terrebonne parishes continue to drill ahead with no showings of oil or gas reported, Texas Co. No. 1 Bayou Sale, section 40-17s-9e, St. Mary Parish, is drilling in sandy shale below 11,627 feet, while north of the Houma gas field, in Terrebonne Parish, Humble Oil & Refining Co. No. 1 H. J. Ellender is drilling in shale below 11,852 feet.

New York-Pennsylvania Gas Fields

COUDERSPORT, Pa., Apr. 24.—Three completions were reported in the New York-Pennsylvania deep sand gas fields in the week ended April 23, two in Potter County and the third in Tioga. Ward Wasson Co. completed its well on the W. B. Hall farm, Genesee Township, Potter County, at 5,387 feet, 15 feet in the Oriskany sand, gauging 7,000,000 feet. Top of the Onondaga lime was at 5,330 feet and top of the Oriskany at 5,372 feet. G. L. Cabot, Inc., well on the R. E. Courtwright farm, Harrison Township, Potter County, was completed at 5,012 feet gauging 12,000,000 feet with an initial rock pressure of 1,870 pounds. It topped the Oriskany at 5,002 feet. Potter Development Co.'s test on the C. G. Dearman farm, Middlebury Township, Tioga County, was plugged after encountering salt water in the Oriskany at 4,416 feet. Top of the Oriskany was at 4,415 feet and the hole was bottomed at 4,418 feet.

Potter Development Co. is redrilling its test on the Crawford Estate property, Keating Township, Potter County, Pennsylvania, after loseing the tools at 5,230 feet. It is drilling at 5,140 feet. The company has two other tests in this county, one drilling at 160 feet on the May C. Haput farm, West Branch Township, and the other building the rig on the Ida Scoville farm, Harrison Township.

Updegraff remains shut down on location on the C. E. Erickson farm, Elk Township, Warren County, while Kent Kane and others are moving in on Lot 515. Watson Township, same county.

G. L. Cabot, Inc., is drilling at 2,350 feet on Union Joint Stock Land Bank farm, Brookfield Township, one of the three current Tioga County tests. Potter Development Co. is fishing at 3,687 feet on the H. C. Kemp farm, Farmington Township, and New York State Natural Gas Co. has spudded on the L. J. Roberts farm, Clymer Township.

In the "outside" tests, Potter Development Co. is drilling at 600 feet on the N. D. Dahl farm, Hayfield Township, and is running 7-inch casing in the test, drilled to 4,024 feet, on the J. Chapman farm, Rockdale Township, both in Crawford County. McKenry and others remain shut down at 2,950 feet on the Stellman farm, Rockland Township, Venango County.

Empire Gas & Fuel Co. well on the K. Mulvey farm, Alma Township, Allegany County, is running casing to 4,631 feet after topping the Onondaga at 4,615 feet. Kaufman and others are drilling at 3,555 feet on the Bank Angelica property, Allen Township, same county. Three wells are drilling in Steuben County and location staked for a fourth. Atwater and others are drilling at 2,960 feet on the Herrington farm, Woodhull Township; G. L. Cabot, Inc., at 3,900 feet on the T. H. Wing farm, Greenwood Township, and Sylvania Corp. at 3,640 feet on the William Hendrickson farm, Troupsburg Township. Belmont Quadrangle Drilling Co. is moving in on the Clara Lynch farm, Hartville Township.

Two tests are under way in Cattaraugus County. Cunningham Natural Gas Co. is drilling at 3,340 feet on the H. Hotchkiss farm, Randolph Township, and the Belmont Quadrangle Drilling Co. at 1,210 feet on the A. G. Hoffler farm, Leon Township.

MONUMENT AREA REPORTS A WELL ESTIMATED 14,000 BBLS.

By
T. R. INGRAM

DENVER, Colo., Apr. 26.—With the advance of spring, operations are rapidly increasing in the northern Montana fields and three new wells were started in each of the important fields of that part of the state, Cut Bank and Kevin-Sunburst.

Continental Oil Co. has acquired more than half a township of leases in the East Lance Creek field in Niobrara County, Wyoming, and is under contract to drill a Sundance sand test. In the Lance Creek field proper, Ohio Oil has recompleted No. 6 Putnam for 100 bbls. of oil an hour. Three new wells have been started in this part of the field by Continental Oil Co. and a very active drilling campaign is in prospect for the field.

Mountain Fuel Supply Co. No. 1 Donnell, a semiwildcat on Powder Wash, Moffat County, Colorado, failed to find oil production in the 3,000-foot horizon and is drilling ahead. South Park Oil Co. No. 1 Lemar, in Park County, Colorado, is believed to be a commercial well in shale but is drilling down and is encountering more oil-saturated shale.

NEW MEXICO

The big well of the week in New Mexico was the Barnsdall Oil Co. No. 8 Cooper, C SE SE section 12-20-36, which flowed 594 bbls. of oil in one hour naturally through casing choke. Gas gauged 4,000,000 feet. Pay was topped at 3,801 feet; total depth, 3,885 feet. This is the final well to be drilled by the Barnsdall company on its Cooper lease, which has had some of the largest flush producers to be drilled in New Mexico. The largest of the wells was the No. 4 Cooper, which had initial flow of 623 bbls. in 30 minutes when completed. The new well is estimated at 14,000 bbls. daily.

Nine other wells were completed in the Monument district. Amerada Petroleum Corp. No. 3-F State, C NE SW section 36-19-36, topped pay at 3,788 feet; total depth, 3,905 feet; acidized and flowed 271 bbls. of oil in eight hours through tubing. Same company's No. 1-A Byrd, C NE SW section 12-20-36, flowed 812 bbls. of oil in nine hours and 40 minutes through choke from pay topped at 3,800 feet; total depth, 3,880 feet.

Gulf Oil Corp. No. 6 Anderson, C NE NE section 17-20-37, had pay at 3,810 feet, was bottomed at 3,862 feet, and flowed 583 bbls. of oil in six hours, with 1,724,000 feet of gas. Same operator's No. 2 White, C NE SE section 25-20-36, flowed 70 bbls. of oil in six hours through tubing, from pay at 3,745 feet; total depth, 3,845 feet. The company's No. 1-F Bell, C SE SW section 36-20-36, found pay at 3,763 feet; total depth, 3,850 feet; flowed 87 bbls. of oil in 12 hours; was acidized, and flowed 240 bbls. in 12 hours.

Ennishope Oil Co. No. 2 Wulff-State, SE SW NW section 17-20-37, had natural flow of 200 bbls. of oil in two hours from pay topped at 3,810 feet; total depth 3,860 feet. Gas measured 1,000,000 feet. Flow was through choke.

Humble Oil & Refining Co. No. 3-F State, C NW SW section 17-20-37, topped pay at 3,740 feet, was bottomed at 3,860 feet, acidized and flowed 41 bbls. of oil in one hour.

Repollo Oil Co. No. 3 Roach, NW SW NW section 21-20-37, was bottomed at 3,870 feet and after treating with acid three times flowed 151 bbls. of oil through choke in 24 hours.

Mid-Continent Petroleum Corp. No. 1 Reeves, C NW NW section 29-20-37, flowed 220 bbls. of oil in 24 hours after second acid treatment and was completed at 3,831 feet, total depth.

Four other wells were completed elsewhere in Lea County. Mac-Stauffer No. 1 Grizzell, C NW NE section 8-22-37, was bottomed at 3,736 feet in lime; acidized and flowed 216 bbls. of oil in 12 hours. Top of pay was 3,685 feet.

Shell Petroleum Corp. No. 2 Black, C SW SE section 21-24-37, had pay at 3,457 feet; total depth, 3,483 feet, and flowed at the rate of 61 bbls. of oil an hour. Sun Oil Co. No. 2 Stuart, C SW NE section 15-25-37, flowed 127 bbls. of oil through casing in 12 hours after a shot, from pay topped at 3,300 feet; total depth, 3,383 feet. Continental Oil Co. No. 24-A-4 McAllister, C N half NE SE section 24-26-36, found pay at 3,145 feet; was bottomed at 3,245 feet; plugged back to 3,224 feet, and flowed 21 bbls. of oil and 9 bbls. of water an hour through choke.

In Eddy County, Etz Brothers No. 3 State, section 16-17-30, swabbed 15 bbls. of oil daily and was completed at 3,252 feet, total depth, with top of pay at 2,885 feet.

Location has been staked and road is being built to Continental Oil Co. No. 1 Burger, C NW SW section 19-20-38, an east offset to the same company's No. 1 Skaggs Permit, wildcat which recently opened a new area 3 miles east of the Monument-Eunice gap.

Monument Area

Gulf Oil Corp. No. 2 Hatchett, C SW NW sec. 33-19-37. T.D. 3,905 ft.; acidized; swabbing.
Amerada Pet. Corp. No. 4 Phillips, C NW NE sec. 1-20-36. T.D. 3,900 ft.; resetting packer.
Amerada Pet. Corp. No. 1-X State, C NW SW sec. 16-20-37. T.D. 3,764 ft.; set 6⅝-in. at 3,760 ft.
Continental Oil Co. No. 16-C-1 State, C SW NW sec. 16-20-37. T.D. 3,809 ft.; well burning; no estimate.
Gulf Oil Corp. No. 1 Bates, C SE SE sec. 26-19-36. Drlg. 3,846 ft.
Phillips Pet. Co. No. 1 Edna-State, C NW NW sec. 30-20-37. T.D. 3,850 ft.; acidized.
Phillips Pet. Co. No. 1 Mexico-State, C NE NE sec. 30-20-37. T.D. 3,843 ft.; to reset packer.
Repollo Oil Co. No. 4-A Phillips, NW SW sec. 31-19-37. T.D. 3,910 ft.; testing.
Tide Water Oil Co. No. 2 Laughlin, C NE SW sec. 4-20-37. T.D. 3,373 ft.; S.D. for water.
Amerada Pet. Corp. No. 3-V State, NE sec. 36-19-36. Drlg. 3,571 ft.
Shell Pet. Corp. No. 3-M State, NE sec. 1-21-36. T.D. 3,757 ft.; S.D. for water.
Amerada Pet. Corp. No. 2-A Byrd, sec. 12-20-36. Drlg. 2,461 ft.
Amerada Pet. Corp. No. 2 Laughlin, sec. 9-20-37. Drlg. 3,406 ft.
Gulf Oil Corp. No. 2-F Bell-State, sec. 36-20-36. Drlg. 3,075 ft.
Gulf Oil Corp. No. 3-F Bell-State, sec. 36-20-36. T.D. 3,849 ft.; testing.
Phillips Pet. Co. No. 1 Hudson-State, sec. 30-20-37. T.D. 3,730 ft.; set 7-in. csg.
Phillips Pet. Co. No. 1 Quapaw-State, sec. 10-20-37. T.D. 3,733 ft.; set 7-in. csg. 3,682 ft.
Repollo Oil Co. No. 4 Byrd, sec. 11-20-36. T.D. 3,901 ft.; swabbing.
Texas Co. No. 2-K State, sec. 18-19-37. Drlg. 3,623 ft.
Amerada Pet. Corp. No. 6 Byrd, C SW SE sec. 12-20-36. Drlg. 3,110 ft.
Gulf Oil Corp. No. 1-C Kutter-State, C SE NE sec. 18-19-37. T.D. 293 ft.; running csg.
Gulf Oil Corp. No. 7 Anderson, C SE NE sec. 17-20-37. T.D. 3,551 ft.; S.D.
Gulf Oil Corp. No. 2 Smith, C NE NE sec. 34-19-36. T.D. 160 ft.; S.D. for water.
Shell Pet. Corp. No. 2-E State, C NW NW sec. 13-20-36. Drlg. 3,115 ft.
Shell Pet. Corp. No. 4-K State, C NW NE sec. 36-20-36. T.D. 1,756 ft.; S.D. for water.
Tide Water Associated Oil Co. No. 1-J State, C SW NW sec. 17-19-37. Drlg. 3,412 ft.
Repollo Oil Co. No. 7 Barber, sec. 8-20-37. T.D. 3,840 ft.; cementing cavity.
Continental Oil Co. No. 4-B-18 Britt, sec. 18-20-37. T.D. 2,680 ft.; S.D. for water.
Continental Oil Co. No. 4-A-11 Sanderson, sec. 11-20-36. Drlg. 3,195 ft.
Gulf Oil Corp. No. 1-G Bell-State, sec. 13-20-36. T.D. 3,780 ft.; set 5½-in. csg. 3,771 ft.
Ohio Oil Co. No. 3 Laughlin, sec. 9-20-37. Drlg. 3,045 ft.
Ohio Oil Co. No. 1 State-Hansen, sec. 16-20-37. Drlg. 2,670 ft.
Texas Co. No. 7 Lieu-Lands, sec. 20-20-37. Drlg. 3,545 ft.
Amerada Pet. Corp. No. 4-F State, C SE SW sec. 36-19-36. T.D. 2,345 ft.; drlg. plug.
Amerada Pet. Corp. No. 4-B State, C SW NE sec. 36-19-36. Derrick.
Stanolind O. & G. Co. No. 3 Gillully, sec. 24-20-36. T.D. 3,740 ft.; S.D. for water.
Amerada Pet. Corp. No. 2-M State, sec. 13-20-36. Derrick.
Amerada Pet. Corp. No. 4-V State, sec. 36-19-36. Drlg. 3,534 ft.
Amerada Pet. Corp. No. 1-Y State, sec. 17-20-37. Drlg. 1,746 ft.
Amerada Pet. Corp. No. 2-Y State, sec. 17-20-37. Drk.
Amerada Pet. Corp. No. 1-Z State, sec. 13-20-36. T.D. 206 ft.; running csg.
Amerada Pet. Corp. No. 2-Z State, sec. 13-20-36. Drk.
Gulf Oil Corp. No. 8 Ramsey, sec. 17-20-37. T.D. 300 ft.; set 10-in. csg. 290 ft.
Gulf Oil Corp. No. 2-D Orcutt, sec. 13-20-36. Drlg. 3,530 ft.
Gulf Oil Corp. No. 3 White, sec. 25-20-36. Derrick.
Phillips Pet. Co. No. 2 Hobbs, sec. 18-20-37. R.U.R.
Phillips Pet. Co. No. 3 Mexico, sec. 18-20-37. Derrick.
Skelly Oil Co. No. 4 Van Etten, sec. 9-20-37. T.D. 3,464 ft.; S.D. for water.
Atlantic Prod. Co. No. 1-O State, sec. 32-20-37. T.D. 290 ft.; set 10¾-in. csg.
Empire Oil & Ref. Co. No. 1 Persons, sec. 27-19-36. Loc.
Skelly Oil Co. No. 5 Van Etten, sec. 9-20-37. Cellar and pits.
Skelly Oil Co. No. 6 Van Etten, sec. 9-20-37. Moving in rotary.
Continental Oil Co. No. 17-A-4 State, C NE SW sec. 17-19-37. Location.
Amerada Pet. Corp. No. 3 Laughlin, C NW NE sec. 9-20-37. Cellar and pits.
Humble O. & R. Co. No. 4-F State, C SW SW sec. 17-20-37. Cellar and pits.
Continental Oil Co. No. 18-B-5 Britt, C SW NW sec. 18-20-37. Cellar and pits.
Continental Oil Co. No. 11-A-5 Sanderson, NE SE SW sec. 11-20-36. Derrick.
Ohio Oil Co. No. 2 State-Hansen, C W½ SW NE sec. 16-20-37. Location.
Gulf Oil Corp. No. 8 Anderson, C SW NE sec. 17-20-37. T.D. 2,205 ft.; S.D.

Chaves County

J. & L. Drlg. Co. No. 1 Hurd, C SE NW sec. 14-11-26. T.D. 457 ft.; S.D. for repairs.
English & Harmon No. 1 Billingslea, SE sec. 9-15-29. Drlg. 1,185 ft. in shale.
Warman Oil Co. No. 1 Weldan & Hoar, sec. 9-14-25. T.D. 1,732 ft.; S.D.

Eunice Area

Getty Oil Corp. No. 1 State D, C SE NE sec. 32-20-37. T.D. 3,860 ft.; waiting on machine.
Gulf Oil Corp. No. 4 Leonard, C SW NE sec. 22-21-36. T.D. 3,905 ft.; P.B. to 3,812 ft.; testing.
Jim Murray No. 4 State-Wallace, sec. 3-21-36. Cellar.
Gulf Oil Corp. No. 1 Bell-Ramsey B, C SW SW sec. 29-20-37. T.D. 3,840 ft.; C.O.
Amerada Pet. Corp. No. 4-W State, C SE SE sec. 30-20-37. T.D. 3,820 ft.; testing.
Gulf Oil Corp. No. 12-C Arnott-Ramsey, C NW SE sec. 21-21-36. T.D. 3,885 ft.; testing.
Atlantic Ref. Co. No. 5 State L, C NW NW sec. 3-21-36. T.D. 3,845 ft.; testing.
Tide Water Associated Oil Co. No. 1 Marshall, C SW NE sec. 13-21-36. T.D. 3,908 ft.; cleaning out.
Ohio Oil Co. No. 6 McDonald, C SE SW sec. 16-22-36. Moving in rotary.
Oil Well Drlg. Co. No. 1 State A, C NW NW sec. 16-22-36. T.D. 3,804 ft.; to swab.
Stanolind O. & G. Co. No. 1 Owen, NW sec. 3-22-37. T.D. 3,394 ft.; S.D. for water.
Devonian Oil Co. No. 2 State, SE sec. 3-21-36. T.D. 3,843 ft.; cleaning out.
Continental Oil Co. No. 30-A-4 Lockhart, sec. 30-21-36. Drlg. 3,555 ft.
Two States & Southern Pet. Expl. No. 3 McQuatters, C SW NE sec. 11-21-36. T.D. 2,813 ft.; S.D. for water.
Gulf Oil Corp. No. 13 Arnott-Ramsey, sec. 21-21-36. Drlg. 960 ft.
Humble O. & R. Co. No. 1-G State, sec. 23-21-36. T.D. 2,740 ft.; S.D. for water.
Texas Co. No. 4 Rector, sec. 30-21-36. Drlg. 3,320 ft.
Gulf Oil Corp. No. 2-E Bell-State, sec. 11-21-36. Derrick.
Gulf Oil Corp. No. 3 Campbell, sec. 7-21-36. T.D. 3,914 ft.; P.B. 3,898 ft.; testing.
Gulf Oil Corp. No. 4 Campbell, sec. 7-21-36. Derrick.
Empire Oil & Ref. Co. No. 1-G State, sec. 2-21-36. Bldg. derrick.
Gulf Oil Corp. No. 5 Collins, sec. 14-21-36. Cellar and pits.
Gulf Oil Corp. No. 8-C Orcutt, sec. 6-21-36. R.U.R.
Stanolind Oil & Gas Co. No. 1 McQuatters, sec. 11-21-36. T.D. 2,611 ft.; milling on iron.
Stanolind Oil & Gas Co. No. 1-A Langlie, sec. 11-21-36. Cellar and pits.
Humble O. & R. Co. No. 2-G State, C NE NW sec. 23-21-36. Digging cellar.
Stanolind O. & G. Co. No. 1 Hill, C Lot 15, sec. 5-21-36. Location.

Dona Ana County

Juels C. Bertrand No. 1 Casad Permit, sec. 24-26-5e. T.D. 40 ft.; preparing to drill water well.

Hobbs Area

Stanolind O. & R. Co. No. 9 State, sec. 9-19-38. Drlg. 2,233 ft.
Stanolind O. & R. Co. No. 7-X Thorpe, sec. 18-19-37. Drlg. 4,138 ft.

Sims Area

Skelly Oil Co. No. 1 R. R. Simms C, C SE SW sec. 3-23-37. T.D. 3,388 ft.; drlg. by tools at 3,368 ft.
Penrose & Rowan No. 3 Cary, C SE NW sec. 22-22-37. T.D. 3,680 ft.; cleaning out.
W. H. Street et al No. 1 Wood, C W½ SE NE NE sec. 22-22-37. T.D. 3,654 ft.; est. 80 bbls. oil daily.
J. E. Farrell No. 1-A Walden, C SW NW sec. 15-22-37. Drlg. 3,708 ft.
Skelly Oil Co. No. 4 Baker, C SW NW sec. 27-22-37. T.D. 3,610 ft.; C.O.
Texas Co. No. 1 Falby, C NE NW sec. 8-22-37. T.D. 3,750 ft.; to acidize.
Skelly Oil Co. No. 1 Sticher, sec. 4-22-37. Drlg. 3,477 ft.
Gulf Oil Corp. No. 1 Davis, sec. 8-23-37. Drlg. 1,005 ft.
J. E. Farrell No. 2-B Walden, C NE SW sec. 15-22-37. Set 8¼-in. csg. 1,153 ft.; W.O.C.
J. E. Farrell No. 2-C Walden, C SE SW sec. 15-22-37. Drlg. 2,280 ft.
Empire Oil & Ref. Co. No. 2 Walden, sec. 21-22-37. Cellar and pits.

Skelly Oil Co. No. 2 H. O. Sims, sec. 4-23-37. Rig.
Skelly Oil Co. No. 5 R. R. Sims, sec. 3-23-37. Cellar and pits.
Tide Water Oil Co. No. 3 Walden, sec. 21-22-37. Drlg. 75 ft.
Skelly Oil Co. No. 2 G. W. Sims, sec. 9-23-37. Drlg. 3,043 ft.
Continental Oil Co. No. 21-A-2 Elliott, C SW SE sec. 21-22-37. Location.

Cooper Area

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-26. T.D. 3,514 ft.; S.D. for orders.
Amerada Pet. Corp. No. 3 Isabell, C SW NE sec. 15-24-36. T.D. 1,503 ft.; set 8⅝-in. csg. 1,493 ft.

Lea County—Miscellaneous

Brown & Reynolds No. 1 Parcell, C NW SE sec. 8-21-38. Wildcat; T.D. 4,397 ft.; P.B. 4,386 ft.; flowing 13 bbls. fluid daily; testing.
Amon G. Carter No. 2 Elliott, C NE SW sec. 22-22-37. T.D. 3,622 ft.; drlg. by tools at 3,553 ft.
Magnolia Pet. Co. No. 1 State G, NW NW NE sec. 24-17-34. T.D. 4,905 ft.; P.B. 4,475 ft.; cleaning out.
Culberson-Irwin & Stovall No. 3 Stuart, NE SE SW sec. 10-25-37. T.D. 3,415 ft.; testing.
Continental Oil Co. No. 1 Wantz, C SW SW sec. 21-21-37. T.D. 3,820 ft.; S.D.
Ohio Oil Co. No. 5 State-McDonald, sec. 16-22-36. T.D. 6,202 ft.; P.B. to 3,820 ft.; testing.
Stanolind O. & G. Co. No. 1 Meyers, sec. 22-24-37. T.D. 3,553 ft.; fishing.
Texas Co. No. 1 Alexander, sec. 5-21-37. T.D. 3,755 ft.; C.O. after shot.
J. L. Perry No. 1 Elliott, SE cor. sec. 19-21-37. Drk.
Samedan Oil Co. No. 3 Hughes, sec. 4-23-27. T.D. 3,631 ft.; cleaning out.
Texas Co. No. 2 Black, sec. 21-24-37. Drlg. 3,020 ft.
Gulf Oil Corp. No. 1 Hardy, C SE SW sec. 20-21-37. T.D. 3,695 ft.; waiting on blowout preventer.
Anderson-Prichard Oil Corp. No. 1 Wells, C SE SE sec. 5-25-37. Drlg. 2,819 ft.
Herschback et al No. 1 Alston, C SW NE sec. 31-17-37. Drlg. 2,450 ft.
Williams & Cockburn No. 3 Miller, C SW SW sec. 23-17-32. Drlg. 3,830 ft.
Ohio Oil Co. No. 1 Grizzell, C SW SE sec. 5-22-37. Drlg. 3,130 ft.
Mid-Continent Pet. Corp. No. 1 Boren, C NE NE sec. 20-22-36. T.D. 3,830 ft.; running tubing.
Stanolind O. & G. Co. No. 2 Meyers, SW sec. 4-24-37. Drlg. 1,425 ft.
Stanolind O. & G. Co. No. 3 Meyers, SE sec. 4-24-37. Drk.
Gulf Oil Corp. No. 1 Boyd, sec. 23-22-37. Drlg. 1,390 ft.
Gulf Oil Corp. No. 2 King, sec. 28-21-37. Drlg. 3,445 ft.
Gulf Oil Corp. No. 1 Shahan, sec. 33-25-37. Wildcat; T.D. 2,330 ft.; installing blowout preventer.
Gulf Oil Corp. No. 1 Woolworth, sec. 30-24-37. Wildcat; T.D. 2,618 ft.; fishing.
Repollo Oil Co. No. 2-B Stuart, sec. 10-25-37. Drlg. 2,985 ft.
Maljamar O. & G. Co. No. 3 Mitchell, C SE NE sec. 20-17-32. Bldg. roads.
Texas Co. No. 1 Fristoe, C SW NW sec. 35-24-37. Drlg. 1,085 ft.
Stanolind O. & G. Co. No. 4 Meyers, sec. 22-24-37. Derrick.
Stanolind O. & G. Co. No. 5 Meyers, sec. 22-34-37. Cellar
Magnolia Pet. Co. No. 1 Hanna, sec. 7-26-38. Wildcat; drlg. 1,233 ft.
Empire Oil & Ref. Co. No. 3-A Closson, sec. 6-22-36. Drk.
Gulf Oil Corp. No. 1 Knight, sec. 27-24-37. Moving in material.
Harry Leonard No. 1 Siddall, sec. 6-20-38. Wildcat; T.D. 105 ft.; R.U.R.
Skelly Oil Co. and Devonian Oil Co. No. 2 Christmas, sec. 21-22-36. Cellar and pits.
Eppenauer Drlg. Co. No. 1 Stuart, sec. 22-25-27. T.D. 3,410 ft.; P.B. 3,398 ft.; flowed 40 bbls. an hour.
Gulf Oil Corp. No. 1 Carson, sec. 28-21-37. T.D. 3,780 ft.; swabbing.
Humble Oil & Ref. Co. No. 1 Greenwood, sec. 9-22-37. Rigging up rotary.
Landreth Prod. Co. No. 2 Grizzell, sec. 5-22-37. Moving in rotary.
Harry Leonard No. 5 Lanehart, sec. 21-25-37. T.D. 2,901 ft.; set casing.
Magnolia Pet. Co. No. 3 Cary, sec. 21-22-37. Loc.
Repollo Oil Co. No. 1 Fowler, sec. 9-24-37. T.D. 3,030 ft.; cleaning out.
El Paso Natural Gas Co. No. 1 Camp, C SW SW sec. 6-24-37. T.D. 50 ft.; R.U.R.
Schermerhorn Oil Co. No. 1 Woolworth, C NW NE sec. 28-24-37. Location.
Gulf Oil Corp. No. 1 Westfall, SE SW SE sec. 15-25-37. Location.
Continental Oil Co. No. 1 Burger, C NW SW sec. 19-20-38. Location.
Culbertson-Irwin et al No. 1 Moseley, SE NE SW sec. 34-24-37. Cellar and pits.

Eddy County

Adams et al No. 1 Page, sec. 15-21-18. Wildcat; T.D. 100 ft.; S.D.O.
Republic Prod. Co. No. 7 Russell A, NW SE NW sec. 18-17-31. T.D. 3,535 ft.; cleaning out.
Republic Prod. Co. No. 3 Robinson Permit, C NE NE sec. 21-17-29. T.D. 2,798 ft.; C.O. after shot.
Barnsdall Oil Co. No. 5 Dodd, sec. 22-17-29. T.D. 2,757 ft.; C.O. after shot.
William Dooley No. 2 Hatchett, SW SW NE sec. 14-20-26. Drlg. 146 ft.
H. & W. Drlg. Co. No. 1 Forgarty, C SW SW sec. 14-23-29. Wildcat; drlg. 2,586 ft.
Flint Prod. Co. No. 1-B Flint, sec. 20-17-30. T.D. 2,843 ft.; set 7-in. csg.
Murchison No. 1-B State, SE sec. 16-17-30. Drlg. 3,145 ft.
Carper Drlg. Co. No. 1 Gissler, NW sec. 23-17-30. Loc.
Continental Oil Co. No. 1 Barrett, NW sec. 22-20-30. T.D. 484 ft.; S.D.
Wesley McCallister No. 1 Cagle, C NW NW sec. 8-26-30. Loc.
Repollo Oil Co. No. 1-D Parke, sec. 15-17-30. Drlg. 455 ft.
Flynn, Welch, Inc., No. 2 Stevens, sec. 13-17-30. Drlg. 1,880 ft.
Neil Wills et al No. 1 Stovall-Wood, sec. 20-20-30. Drlg. 395 ft.
Carlsbad Oil Co. No. 1 Pecos Irrigation, C NE SE sec. 15-25-28. Drlg. 100 ft.
Barnsdall Oil Co. No. 6 Dodd, sec. 22-17-29. T.D. 1,000 ft.; set 8¼-in. csg.
Grayburg Oil Co. No. 3 Keely, SE NE NE sec. 24-17-29. Location.
F. W. & Y. Oil Co. No. 3 Jackson, C NW SE sec. 13-17-30. Location.
F. W. & Y. Oil Co. No. 4 Gissler, C SE SE sec. 14-17-30. Rigging up machine.
F. W. & Y. Oil Co. No. 5 Gissler, C NE SE sec. 14-17-30. Rigging up machine.
Harry Leonard No. 10 State, SE SW SW sec. 27-17-29. Rigging up machine.

Roosevelt County

Clovis Corp. No. 2 Wilmes, C SE NE sec. 17-2s-30e. Drlg. 3,161 ft. in lime and anhydrite.
Dummit Oil Co. No. 1 Todd, SE SE sec. 34-3n-29. T.D. 280 ft.; waiting on csg.

Otero County

George Muldey No. 1 State, SW cor. sec. 11-25-8e. T.D. 263 ft.; S.D.
O. K. Hearte No. 1 Hattie Evans, NW NW SW sec. 22-24-12. O.W.D.D.; wildcat; T.D. 1,951 ft.; S.D.

Curry County

Bond & Harrison No. 1 Hart Ranch, C NW SE sec. 13-2n-31. T.D. 12 ft.; S.D.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW sec. 19-11n-4e. Drlg. 3,150 ft., gr. sh.

San Juan County

Anna Oil Corp. No. 6 Govt., SW NE NE sec. 33-30n-11w. S.D. at 370 ft.
Jack Amenda No. 4 Hart, NW NE SW sec. 25-30n-12w. Drlg. 1,785 ft.
Continental Oil Co. No. 59 Tribal, SE SW SE sec. 35-30n-19w. Rigging up.

Socorro County

R. Allen Brown, Tr., No. 1 Belen Grant, SE NW sec. 16-2n-1e. Bldg. rig.

Valencia County

C. A. Grober et al No. 1 Fuqua, NE NE sec. 19-5n-3e. Drlg. 325 ft.; will run 12½-in.

COLORADO

Adams County

Glenridge Oil Co. No. 1 Hills, SE SE SE sec. 27-3s-64w. S.D. 4,345 ft.; parted pipe in hole.

Huerfano County

S. W. Pressey No. 1 Ojo, SW NE sec. 10-29s-69w. Drlg. 3,350 ft. after lowering 5⅞-in. to bottom to S.O. cavings caused by gas; Dakota expected 3,900 ft.

Larimer County

L. D. Charboneau et al No. 1 Thompson, C NE sec. 12-4n-70w. Drlg. 153 ft.

Lincoln County

Consolidated Smelting & Metals Corp. No. 1 Hancock, NE NE SW sec. 7-17s-52w. S.D. 2,245 ft. for rig repairs.

Moffat County

Mountain Fuel Supply Co. No. 1 Donnell, on the Powder Wash structure, is drilling at 3,237 feet and reports excellent showings of gas in sands below 3,080

Springtime is Cleaning Time!

New Ideal Hi-Speed Model Pipe Cleaning Machine "Cleaning up" for Oklahoma Operator.

Also Time To "STRAIGHTEN UP"

Model "D"
BEN-FRANKLIN
Duo-Hydraulic
Pipe Straightening
and Bending Machine

THERE'S A NEW IDEAL MACHINE FOR YOUR JOB!!

Write for Complete Illustrated Catalog.

The NEW DEAL SPECIALTY CO.
—INC.—
OKMULGEE, OKLA., U.S.A.
Export—Lucey Export Corporation
3505 Woolworth Bldg., New York, N. Y. Broad Street House, London, E.C.2, England

feet. A drill-stem test at 3,204-12 feet did not show any oil and the well will now be drilled to the Wasatch horizon at 5,032 feet in which No. 1 Allen, three-quarters of a mile southeast, was completed last fall for 60 bbls. of oil an hour.

Mountain Fuel Supply Co. No. 1 Donnell, C SE NE sec. 31-12n-97w. Drlg. at 3,237 ft.
Anderson-Kerr Drlg. Co. et al No. 1 Denise, C SE SE sec. 19-9n-99w. T.D. 1,350 ft.; sdtrkg. bailer; 12½-in. down past top of bailer.
Anderson-Kerr Drlg. Co. No. 1 Marrs, C SE NE sec. 17-11n-100w. Bldg. road.

Morgan County

Swisher et al No. 1 Lunt, SE cor. sec. 3-4n-60w. T.D. 1,718 ft.; cmtg. tbg. at 1,600 ft.; prep. to shooting.

Park County

South Park Oil Co. No. 1 Lemar, on the south dome of the Hartsel anticline in South Park, reports additional oil saturation in Pierre shale to 4,540 feet, making a total of over 400 feet of such saturated shale containing a considerable quantity of free oil. The well is being drilled through the shale with an underdigger and the 8¼-inch casing which is being carried will be perforated opposite the saturated shale if oil production is not obtained in the objective Apache Creek sand—a sand near the base of the Pierre. This well was started as a Dakota sand test, but the company is now seriously considering completing it as a shale well. The hole is in nice shape for deep drilling as 10¾-inch pipe was successfully carried to 4,060 feet, where it was cemented.

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75. Drlg. 4,540 ft. 8¼-in. at 4,530 ft.
South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. S.D. 5,705 ft.

WYOMING

Albany County

Hal Blakeman No. 1 Chapple, C NE NW sec. 33-21n-76w. C.O. to bottom at 1,681 ft.
Murphy Oil Co. No. 1 Hoist-Woolf, NW NW NW sec. 19-17n-76w. Drlg. shale and shells at 3,161 ft.
Murphy Oil Co. No. 3 Wilson, SW NW SW sec. 18-17n-76w. Drlg. in shale at 3,616 ft.

Big Horn County

Ohio Oil Co. No. 1 Baker-Byron, SE NW sec. 23-56n-97w. Drlg. in r.b. at 5,121 ft.
Ohio Oil Co. No. 1 State, NE cor. Lot 38, sec. 36-56n-97. Installing pumping equipment.
Woods-Callahan Oil Co., Ltd., and Wyoming O. & R. Co. No. 1 Evans, NE NE NW sec. 12-44n-91w. M.I. rot. rig from California.

Campbell County

G. J. Sherin et al No. 1 Rodes, NE SE SW sec. 24-49n-74w. Drlg. 425 ft.

Carbon County

Ohio Oil Co. No. 6 Diamond Cattle, NW NW sec. 35-20n-78w. Drlg. 3,326 ft.
Medicine Bow Oil Co. No. 1 Hintze-Govt., C NE SE sec. 18-22n-78w. Drlg. 2,130 ft. in Sundance; slow progress due to heavy mud carried to hold back gas pressure.
Ohio Oil Co.-California Co. No. 2 Kyle, C SE SE sec. 26-21n-79w. Drlg. 5,088 ft.
Ohio Oil Co.-California Co. No. 4 Union Pacific, C SW SW sec. 25-21n-79w. Drlg. 4,552 ft.
Ohio Oil Co.-Medicine Bow Oil Co. No. 1 U. P.-Wister, C NW SW sec. 17-22n-78w. Rigged up ready to spud.

Converse County

Chadron-Osage Oil Co. No. 1 State, SW cor. sec. 16-32n-69w. Drlg. at 3,250 ft.
Wyoming Southern Oil Co. No. 2 Salisbury, NE NW SE sec. 27-32n-69w. Drlg. at 445 ft.
Wyoming Southern Oil Co. No. 1 Evert, NW NW SW sec. 26-32n-69w. Spudding.

Fremont County

Ben Stewart No. 1 Darnell, NE SE sec. 26-3n-1w. M.I.M. test to Frontier at 600 ft.; 1½ mi. E of Pilot Butte wells.

Lincoln County

H. M. Eller et al No. 4 Govt., SE NW SW sec. 32-19n-116w. T.D. 401 ft.; will tst. S.O. in lenticular sd. at 397-401.
Place Oil Co. No. 1 Davis, SE SE SE sec. 9-26n-113w. S.D. at 780 ft.

Natrona County

Empire State Oil Co. No. 3-U, SE NE sec. 33-34n-83w. Drlg. red sh. 2,490 ft.
Wyalta Oil Co. No. 4 Govt., NW NW sec. 5-29n-81w. Cmtd. 6⅝-in. on top of Sundance at 1,082 ft.; rng. 2,-in. tbg. to test at 1,030-72 ft.
Wyalta Oil Co. No. 5 Govt., SW SW sec. 30-30n-81w. Testing at 1,021 ft.
Wyalta Oil Co. No. 6 Govt., NE SE NW sec. 5-29n-81w. Spudding for deep test.

Niobrara County

Ohio Oil Co. has recompleted No. 6 Carrie Putnam, C NW NW of section 4-35n-65w, Lance Creek field, for an initial production of 100 bbls. of oil an hour in basal Sundance sand at 4,015-60 feet. This well was completed last winter at 4,019 feet and produced 950 bbls. of oil in 24 hours from the upper 4 feet of the Sundance. The present total depth is 4,065 feet, 5 feet in Chugwater red beds.

Continental Oil Co. placed on record in Lusk, Wyoming, this week, leases and permits covering the larger part of the S half of Township 46n, Range 65w, in the East Lance Creek field and is reported to have signed a contract with F. F. Hintze and Vincent Carter for development of the leases and permits under a unit plan of development which has been approved by the secretary of the interior.

Continental Oil Co. has just released three new locations at Lance Creek and all are of considerable interest. Its No. 10 Tom Bell Cattle is on the east side of the field between the developed part of the field and No. 2 on Apex 3, which is the farthest east well of the field and about a mile ahead of production. The other locations will not have the effect of extending the proved productive area.

Continental Oil Co. No. 4 Schuricht B, NW SW SE sec. 6-35n-65w. Loc. (first report).
Continental Oil Co. No. 8 Otto Rohlff, SW SW SE sec. 31-36n-65w. Loc. (first report).
Continental Oil Co. No. 10 Tom Bell Cattle, C SW NW sec. 34-36n-65w. Digging cellar (first report).
Ohio Oil Co. No. 1 Leo 17, NW NW SE sec. 35-36n-65w. Rig up.
Ohio Oil Co. No. 8 Putnam, SW SE SW sec. 33-36n-65w. Testing production at 4,078 ft.
MacKinnie Oil & Drlg. Co. No. 2 Thompson, NW NW NE sec. 7-35n-65w. Rigging up.
J. M. Huber Corp. No. 1 Lamb, SE SE SW sec. 27-36n-65w. T.D. 3,897 ft.; fsg. D.P.

Riggs Oil Co. No. 2 Spaugh, SE SE SW sec. 32-34n-65w. Drlg. 1,430 ft. in Minnelusa.
Ohio Oil Co. No. 5 Leo, NW NW SW sec. 35-36n-65w. Drlg. below 4,407 ft.; depth not reported.

Park County

General Pet. Corp. No. 1 Govt., NW NW NW sec. 33-47-100. Coring Embar lime at 5,880 ft.

Platte County

Dividend O. & R. Co., Inc., No. 1, CSL NW SW sec. 17-24n-66. S.D. 2,385 ft.; C.D.

Uinta County

E. A. Ottman et al No. 1 Govt., C SE NW sec. 26-14n-119w. M.I.M. for cable tool test to Bear River form. at 1,600 ft.

Washakie County

Arlton & Doyle No. 1 Govt., SW SW SE sec. 29-48n-91w. T.D. 1,356 ft.; prep. to resume.
Yale Oil Corp. No. 2 Govt., CEL SE SE sec. 25-48n-91w. Loc.
Bruce Teeter No. 5 Govt., CSL SW SW sec. 30-48n-90w. Drlg. 100 ft.; 10-in. at 85 ft.
Christensen & Thorne No. 3-X Govt., NW SW SW sec. 31-48n-90w. Drlg. sh. 860 ft.
Wyoming O. & R. Co. No. 8 Govt., NW NE NW sec. 31-48n-90w. Drlg. 200 ft.; 10-in. at 79 ft.
Wyoming O. & R. Co. No. 7 Govt., SW NW NW sec. 30-48n-90w. Drlg. bl. sh. 710 ft.; 10-in. at 87 ft.

Weston County

R. L. Rose No. 7, C SW SE sec. 8-46n-63w. Drlg. below 200 ft.

MEEHANITE CASTINGS

Available in various grades to fit specific requirements and to meet exact specifications

Recommended for purposes where
HEAT
WEAR
CORROSION
and
GENERAL ENGINEERING
properties are necessary

FOR FULL INFORMATION CONSULT ANY OF THE FOLLOWING:

American Laundry Machinery Co., Rochester, N. Y.
Banner Iron Works, St. Louis Mo.
H. W. Butterworth & Sons Company, Bethayres, Penn'a.
The Cincinnati Milling Machine Co., Cincinnati, Ohio
Cooper-Bessemer Corporation, Mt. Vernon, Ohio
M. H. Detrick Company, Chicago, Illinois
Farrel-Birmingham Company, Ansonia, Conn.
Florence Pipe Foundry & Machine Co. Florence, N. J.
Fulton Foundry & Machine Co. Cleveland, Ohio
Greenlee Foundry Company, Chicago, Illinois
G. H. R. Foundry Company, Dayton, Ohio
Koehring Company, Milwaukee, Wisc.

METAL
Registered Trade Mark

Hamilton Foundry & Machine Co., Hamilton, Ohio
Kanawha Manufacturing Company, Charleston, W. Va.
Kinney Iron Works, Los Angeles, Calif.
Michigan Valve & Foundry Co., Detroit, Michigan
Rosedale Foundry & Machine Co., Pittsburgh, Pa.
Ross-Meehan Foundries, Chattanooga, Tenn.
Vulcan Foundry Company, Oakland, Calif.
Warren Foundry & Pipe Corporation, Phillipsburg, N. J.

MONTANA

Big Horn County

Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e. T.D. 3,830 ft. S.D.

Glacier County

The warm weather of early spring has resulted in a revival of operations at Cut Bank and three wells are being started. Only one well was completed the past week, but several wells are in various stages of near completion.

William Hanlon, agent, No. 2 Allotted 131, C Lot 9, SW NW of section 7-32n-5w, in the south part of the Cut Bank field, has been completed at 2,868 feet for 65 bbls. of oil in 18 hours. The well logged Sunburst sand at 2,810-20 feet and reported a showing of oil. The hole filled up 1,200 feet with oil while the Cut Bank sand at 2,837-76 feet was being drilled.

Santa Rita O. & G. Co. No. 1 Rasmussen, C NE SW sec. 32-33n-5w. Bldg. rig (first report).
Annand-Hutchings No. 3 Federal Land Bank, NE SE SW (330 location), sec. 11-34n-4w. Bldg. rig (first report).
R. E. Lee No. 1 Davis, C S half SE sec. 15-32n-6w. Rig on loc. (first report).
Montana Headlight Oil Co. No. 4 Britton, NE SW NE sec. 14-34n-6w. Cmtd. 10¾-in. 535 ft., 50 sacks; W.O.C.
Cut Bank Oil Trust No. 1 Yunck, SE SE SE sec. 23-34n-6w. Spudding at 50 ft.
Glacier Prod. Co. No. 2 Fuller, C NW SE sec. 17-33n-5w. Drlg. at 1,570 ft.
Glacier Prod. Co. No. 2 Connolly, C SW SW sec. 6-33n-5w. Drlg. at 1,960 ft.
Glacier Prod. Co. No. 1 Corrigeau, NW NW NW sec. 21-33n-5w. Drlg. at 1,965 ft.
C. E. Walgren No. 2 Britton, C SE NE sec. 14-34n-6w. Drlg. at 1,640 ft.
Texas Co. No. 1 Stufft, C NW NW Lot 4, sec. 1-35n-6w. S.D.O. 2,975 ft.
Santa Rita O. & G. Co. No. 1 Madison, CWL NW SW sec. 30-34n-5w. Cmtd. 7-in. 2,840 ft., 50 sacks; W.O.C.
Wm. Hanlon, Agt., No. 2 All.-128, C NW SE sec. 12-32n-6w. Drlg. at 2,982 ft.
Dakota-Montana Oil Co. No. 1 Tribal-136, C NE NE sec. 15-34n-6w. Fishing for 10-in. bit at 2,780 ft.
Dr. Peter Potter No. 2 All.-125, NW NE NE sec. 12-32n-6w. Drlg. at 2,780 ft.; show of oil.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15e. Drlg. 1,400 ft.

Park County

Ben W. Ryan et al No. 1 Burgess, SE SW NW sec. 28-2s-11e. T.D. 606 ft.; prep. to resume.

Pondera County

Gordon Campbell No. 1 Hughes, NW NE NW sec. 12-30n-4w. T.D. 2,494 ft.; tools rec. and S.D.
Clinch Pet., Ltd., No. 1 Hollam, NW NW NW sec. 12-28n-6w. T.D. 2,200 ft.; resumed.

Phillips County

City of Malta No. 1 Govt., C SE SE sec. 18-30n-30e. T.D. 1,120 ft.; resuming; will run 6¼-in.
R. G. Parrent No. 1 Hartman, C NW SE sec. 12-24n-25e Drlg. 898 ft.

Toole County

During the past week three new locations were added to the list of operations in the Kevin-Sunburst field, three wells were completed and one well was abandoned after failing to find oil production in either the Ellis-Madison contact or in the underlying lime.

A. Beardslee No. 5 Swears, CSL SE NW of section 9-35n-2w, was completed in the Ellis-Madison contact at 1,648 feet for 75 bbls. of oil a day after treatment with 750 gallons of acid. The well had only a minor showing of oil before acid treatment.

Big West Oil Co. No. 6 Dalquist, NW NW SE of section 21-35n-2w, was completed in Madison lime at 1,788 feet for 25 bbls. of oil a day. It may be treated with acid at once.

A. E. Crumley No. 9 Fryberger, CEL NW SE of section 24-35n-3w, was a very small well in the Ellis-Madison contact at 1,585 feet, total depth 1,598 feet, and is waiting for acid.

Pfabe & Engleking No. 11 Seabrooke, CSL SE SE of section 19-35n-2w, failed to find oil production either in the Ellis-Madison contact or in the underlying lime and has been abandoned at 1,528 feet.

Agen & Kraus No. 1 Kraus, SE SE SE sec. 9-35n-3w. Drlg. at 585 ft. (first report).
Wm. McKnight No. 2 Havland, CWL SE NW sec. 19-35n-2w. Rig up (first report).
Rimrock Oil Co. No. 1 Government, CEL SW NW sec. 29-35n-3w. Moving in material (first report).
Shaver Oil Co. No. 2 Shaver, SE SW NE sec. 11-34n-2w. Loc.
Shaver Oil Co. No. 3 Shaver, CSL SW NE sec. 11-34n-2w. Loc.
Kevin-Butte Synd. No. 1 Thompson, NW NE NW sec. 33-35n-3w. T.D. 1,100 ft.; C.O. to land 8¼-in. on bottom.
W. S. Knight No. 1 Gunderson, SW SE NW sec. 9-35n-2w. S.D. in Ellis-Madison contact at 1,572 ft.
A. E. Crumley No. 11-A Shaw, SE NW NE sec. 35-36n-2w. Drlg. at 1,170 ft.
Bryant Bros. No. 1 Lashbaugh, NE SW NW sec. 34-25n-2w. T.D. 850 ft.; R.U. heavier machine to resume.

Yellowstone County

Broadview Dome Oil Co. No. 1, NE NE SW sec. 18-3n-23e. Unloading tools.
R. C. Tarrant No. 2 Sayre, NE NE SW sec. 26-3s-24e. Drlg. at 550 ft.

UTAH

Emery County

Standard Oil Co. of California and Continental Oil Co. No. 1-A Palm, C NW NW sec. 27-23s-11e. T.D. 1,652 ft.; prep. to resume.

Grand County

Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22s-22e. S.D. 6,715 ft. for heavier equip.
Columbia Crude Corp. No. 1 Rath, NW SW SE sec. 12-25s-20e. T.D. 2,045 ft.; cmtd. 7-in. at 2,143 ft.; drlg. plug.

NEBRASKA

Sioux County

J. M. Huber Corp. and United Producers, Inc., No. 1 Morgan, C SW SW sec. 32-35n-56w. Drlg. 2,692 ft. (C.D.), hd. gr. sh.; top Fuson 2,585 ft.; top Lakota 2,655 ft.; no shows.

Dawes County

Stephens Oil Corp. No. 1 Palmer, C NW SW sec. 1-33n-50w. Drlg. 1,880 ft.

Lincoln County

Smith & Wright No. 1 Hansen, C SW NW sec. 24-15n-31w. Drlg. below 1,278 ft.; did not test shows at 1,200 ft.

Michigan Fields

(Continued from Page 76)

lease in section 23, Ogemaw Township, at the northwest edge of the West Branch pool, Ogemaw Township, while Pure Oil Co. was preparing to drill a wildcat in Marion Township, Clare County, east of the village of Marion.

Lands division of the state department of conservation announced another auction sale of leases on state lands, to be held in Lansing, state capitol, at 1:30 p.m., Friday, May 7, when oil and gas rights on 26,500 acres in Lincoln Township, Clare County; Beaverton and Gladwin Townships, Gladwin County; Grant Township, Iosca County; Homer, Lincoln and Lee townships, Midland County; Ogemaw and Foster townships, Ogemaw County, and Roscommon Township, Roscommon County, will be offered for wildcatting.

NO where in heavy industry are shut-downs as costly as in the oil field. Now the pedigreed American-Bosch—the Super-Powered Magneto—gives greater protection than ever against sudden shut-downs; greater assurance of top operating efficiency.

Over half a century of engineering leadership has gone into the evolution of the American-Bosch Magneto. Thus its pedigree means as much to your peace-of-mind as its greater electrical energy. This pedigree means as much to your pocketbook as its wider speed range, its increased stamina, its unique simplified construction (dustproof, waterproof, winterproof, tropic-proof).

For its unparalleled pedigree—*above all else*—is your assurance that the American-Bosch Magneto will save you time, worry and expense. This is your yardstick of true magneto economy. Write for interesting booklet.

UNITED AMERICAN BOSCH CORPORATION
SPRINGFIELD, MASS. NEW YORK CHICAGO DETROIT

AMERICAN-BOSCH
Super POWERED MAGNETO

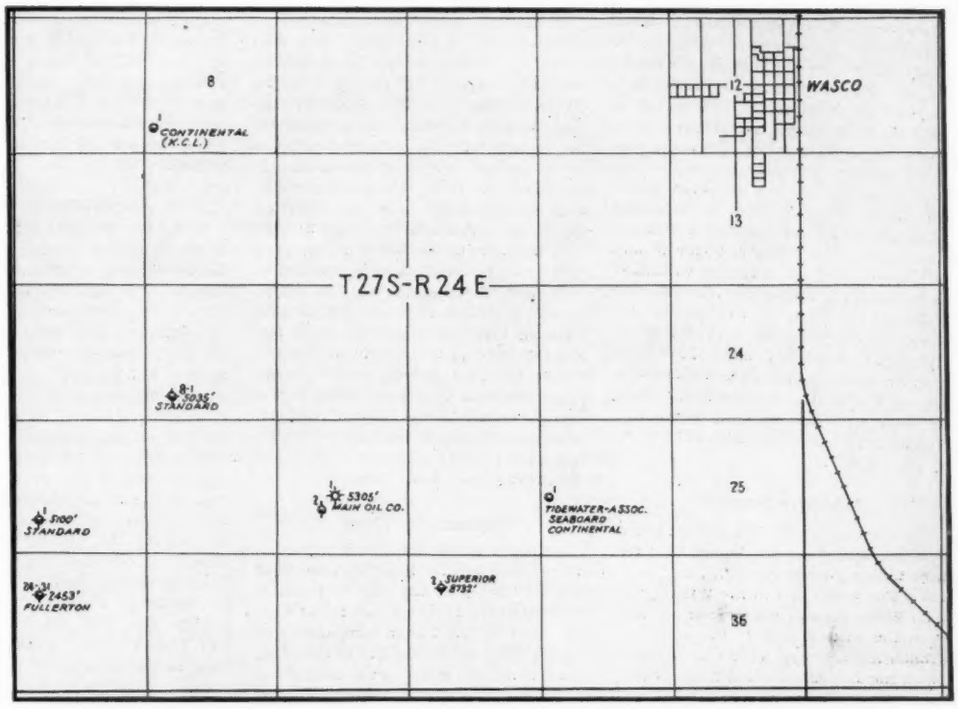
California Field Report

By
L. P. STOCKMAN

WILMINGTON FIELD ALARMS CALLING FOR CURTAILMENT

LOS ANGELES, Calif., Apr. 26.—The Wilmington field of Los Angeles Basin is rapidly approaching the point where some definite action will be necessary to alleviate what may prove to be a rather disturbing element particularly in the fuel oil market. Development work has increased at such a rapid rate that this field now heads the list as far as drilling operations are concerned with 40 wells drilling and 35 more being prepared for early work. A general meeting has been called for discussing the advisability of adopting a well spacing program to conform with the opinion of the city planning commission that not more than one well should be drilled to each city block in a given zone. Limitation of drilling operations in conformity with this program means that three wells may be drilled in each block if an operator decides to produce from all three zones but only one well can be drilled if the operator chooses to produce from the most prolific. Such a program would also reduce the fire hazard to a minimum and result in orderly development of what may become a very congested area unless restrictions are imposed.

Production of crude oil in the Wilmington field has shown a gain commensurate with the increase in drilling and within another 30 days the field will be producing in excess of 35,000 bbls. per day unless the lid is clamped tighter. To give the allocation committee of the Central Committee of California Oil Producers sufficient data upon which to predicate the daily quota of the field for May operators have been invited to sit with Umpire Pemberton and discuss the entire situation. An effort is being made to establish a basis for curtailment in the Wilmington field and the allocation committee's report to the central committee will have a definite bearing on how the necessary curtailment will be effected. The consistent increase in production is giving the curtailment committee considerable worry although in some circles it is believed the inability of marketers to continue buying this heavy crude oil may have a tendency to curb some of the field's production. Sand trouble is causing some trouble to operators and this may be another factor that may force operators to restrict production but it will be another few months before the sand cuts fittings and caves around the perforated liner or combination string in the bottom of the hole. Several operators have already reduced production to reduce this condition to a minimum.



Continental Oil Co. appears to have discovered a new oil field in Kern County

New Wells

During the week seven wells were completed in the Wilmington field with an aggregate initial daily production of 4,124 bbls. Some of these, due to the practice of bringing in the wells slowly because of sand, will show substantially higher production after they are on production a few days. Royalty Service Corp. headed the list by completing three followed by General Petroleum Corp. which added two. The former's No. 3 Community finished at 3,639 feet with a 7-inch combination string carrying 314 feet of perforated was brought in flowing 360 bbls. of 17.9 gravity. No. 4 Community of Royalty Service was good for 618 bbls. of 17.8 gravity from 3,595 feet after the hole had been finished with a 7-inch combination string carrying 672 feet of perforated and which was cemented through perforations at 2,923 feet. No. 1 Buckley, Royalty Service Corp. third completion was brought in flowing 576 bbls. of 17.9 gravity from 3,598 feet. It was finished with a 7-inch combination string carrying 673 feet of perforated and was cemented through perforations at 2,925 feet.

General Petroleum Corp., discoverer of the Wilmington field, completed two wells on the Ford lease in two different zones. The deepest was No. 1 Ford which was brought in flowing 1,190 bbls. of 19.2 gravity oil per day from 3,600 feet after the hole had been finished with an 8⅝-inch combination string carrying 455 feet of 60-mesh and which was cemented through perforations at 3,145 feet. No. 3 Ford was completed in the first or upper zone at 2,707 feet and the company will give this zone a fair chance to show what it is good for before deepening if this should be found advisable. The second zone, which is sustaining most of the drilling at present, is the most productive. No. 3 Ford was brought in flowing 270 bbls. of 16.9 gravity following completion with a 6⅝-inch liner including 242 feet of 60 mesh. Union Pacific Railroad Co., which is developing its own holdings in the Wilmington field completed No. 5 Offset flowing 675 bbls. of 17.6 gravity oil from 3,512 feet. It was finished with an 8⅝-inch liner carrying 385 feet of perforated. Bankline Oil Co. completed an excellent well in the extreme eastern end when No. 13 D. H. C. was brought in flowing 435 bbls. of 17.5 gravity from 3,313 feet. This is the largest completion in this area up to the present.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	April 15		April 8			
Intercoastal-domestic:	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Diesel and gas oil	.....	.....	.....	.....	176,726	151,541
Gasoline	167,980	23,997	116,870	16,696	687,553	1,650,119
Kerosene	.....	.....	.....	.....	.....	464,996
Foreign exports:						
Crude oil	139,913	19,988	390,452	55,773	3,712,774	2,717,883
Fuel oil	229,202	32,743	98,904	14,129	3,881,675	2,719,611
Diesel and gas oil	105,374	15,053	5,870	839	1,936,753	1,265,286
Gasoline	367,561	52,509	204,868	29,267	2,363,551	1,625,179
Kerosene	171,005	24,429	74,596	10,657	879,407	166,314
Other unfinished oil	.....	.....	.....	.....	179,265	6,439
Coastwise-domestic:						
Crude oil	.....	.....	220,695	31,528	1,719,828	1,758,806
Fuel oil	107,209	15,316	367,825	52,546	4,262,910	2,580,305
Diesel and gas oil	96,542	13,792	78,391	11,199	739,114	441,666
Gasoline	279,842	39,977	356,386	50,912	3,550,728	3,816,424
Kerosene	.....	.....	19,842	2,835	51,840	79,586

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	152,932	.....
Gasoline	.....	.....	.....	.....	25,778	.....
Lubricants	.....	.....	.....	.....	.....	7,608
Foreign exports:						
Crude oil	77,758	11,108			907,349	628,909
Fuel oil	49,918	7,131	19,721	2,817	469,000	1,109,781
Diesel and gas oil	25,904	3,701			898,007	144,693
Gasoline	108,109	15,444			1,574,536	966,293
Kerosene	.....	.....	.....	.....	252,035	163,707
Lubricants	.....	.....	.....	.....	234,631	73,788
Coastwise-domestic:						
Fuel oil	71,149	10,164	92,689	13,241	1,848,729	2,130,314
Diesel and gas oil	38,652	5,522	14,940	2,134	197,308	179,703
Gasoline	16,127	2,304			1,226,050	1,380,229
Kerosene	.....	.....	.....	.....	41,340	55,772

El Segundo

The El Segundo field of Los Angeles Basin is not showing as rapid an increase in drilling or production as Wilmington due to higher drilling costs and the time from spud to completion. Union Oil Co. has almost completed No. 2 Security in one month. It is standing cemented with bottom of the hole at 7,619 feet, and was spudded March 24 and while the elapsed time will be something over a month before the production test is completed the company has established a drilling record which will provide something for other operators to shoot at. Texas Co., which has finished the largest producer, has completed No. 2-1 Johnson in the eastern end pumping 158 bbls. of 25.8 gravity from 7,715 feet after the hole had been plugged back from 7,756 feet because of bottom water. Ohio Oil Co. did not have any difficulty in killing No. 3 Gough, which blew in prematurely a

week or so ago because work was not undertaken until the well started heading. Preparations are under way to reenter the hole and attempt to recover the 40 stands of drill pipe which dropped to the bottom when sand cut the elevators.

Huntington Beach

The Huntington Beach tideland matter returned to the spotlight during the week with passage of the Olson bill by the state senate but no action has yet been taken in regard to Senator Delap's validating measure except to advance it for hearing within a few days. This validating measure provides for validation of all contracts made heretofore and specifically validates the recently signed contract with Standard Oil Co. whereby the state will receive reimbursement for oil taken from beneath state tidelands by wells which were not intentionally directed into the tideland. M. E. Lombardi, a director of Standard Oil Co., agreed to give the state ingress to and egress from piers for development of submerged tidelands through its littoral holdings provided the contract was approved relieving Standard Oil Co. from the continual litigation which has become a political football. Senator Olson is obdurate and will make every effort to stop validation of the contract. During the current week Union Oil completed No. 24 Copeland and Texas Co. completed No. 8 Brown in the Huntington Beach field and both showed commercial production. The former was brought in pumping 120 bbls. of 25.6 gravity from 4,249 feet and the latter was brought in pumping 247 bbls. of 27.5 gravity from 4,148 feet.

Midway-Sunset

The Midway-Sunset field of Kern County which headed the development list for more than a year relinquished this position a few weeks ago to the Wilmington field. When present restrictions are lifted in the eastern part of the structure Wilmington will expand across the line separating Los Angeles and Long Beach. Several new wells were completed in the Midway-Sunset field this week but none registered substantial production. The best well finished was Alford Oil Co. No. 8 Fried, section 25-12-24, pumping 530 bbls. of 21.6 gravity from 2,924 feet after the hole had been finished with a 6⅝-inch liner carrying 253 feet of perforated.

Quality Oil Co., which has drilled several wells in the Midway-Sunset field, completed No. 4 Bull in section 22-32-23, but it proved to be wet and may necessitate some remedial work. Initial daily production aggregated 360 bbls. from 1,852 feet but the output was still cutting 70 per cent at last reports. Chanslor Canfield Midway Oil Co. No. 23 in section 21-32-23, was another well that showed a high water cut upon completion this week. Bottomed at 2,650 feet and finished with an 8⅝-inch liner including 824 feet of perforated it was brought in pumping 401 bbls. of 19.8 gravity cutting 30 per cent. North American Consolidated No. 5 in section 2-32-24 was finished pumping 50 bbls. of 26.9 gravity upon completion at 4,167 feet.

Kern River

In the Kern River field Bishop Oil Co. completed No. 8 Fano out in the West Front area and this new producer was brought in pumping 228 bbls. of 15.6 gravity from 1,987 feet. This hole was finished with an 8⅝-inch liner carrying 285 feet of perforated. No. 6 Lehman of Texas Co. in section 23-28-27 was good for 171 bbls. of 15.4 gravity cutting 4 per cent upon completion at 2,008 feet. Standard Oil Co. No. 5 Ward fee in section 24-28-27 came in pumping 96 bbls. of 15.3 gravity cutting 20 per cent upon completion at 1,970 feet. National Oil Co. has recompleted No. 9 Gates in section 2-28-29 after plugging back the hole from 1,810 feet to 1,481 feet and it was returned to production pumping 45 bbls. of 14.3 gravity oil cutting less than 3 per cent. In the Premier section of the Kern River field, Dougan Oil Co. completed No. 2 Newhouse in section 17-28-27 pumping 176 bbls. of 15.3 gravity from 2,888 feet.

Mountain View

Salt water disposal is becoming a serious problem in the Mountain View field of Kern County as the plan to inject it into abandoned holes was not found feasible. Most of the larger companies are digging large reservoirs and evaporating basins to dispose of the salt content without injuring the surrounding farms. Liko Petroleum Co. has succeeded in completing No. 1 in section 19-30-29 pumping 276 bbls. of 25.6 gravity from 5,359 feet. This hole was finished with a 4½-inch liner including 146 feet of 125 mesh. Vesta Petroleum Co. No. 1 Hopkins in section 19-30-29 was good for 162 bbls. of 23.4 gravity upon completing at 4,970 feet and Wood Callahan Oil Co. No. 3 Wells in section 25-30-28 proved good for 50 bbls. daily from 5,870 feet after the hole had been plugged back from 5,965 feet.

Fruitvale

Exeter Oil Co. has completed its second well in the Fruitvale field of Kern County, No. 2 Henry, pumping 169 bbls. of 19.3 gravity oil from 4,185 feet. C. J. Kelley No. 2 Greeley showed an initial daily production of 384 bbls. of 18.2 gravity from 3,160 feet. Western Gulf Oil Co. discoverer of the Fruitvale field completed No. 25-B Kern County Land flowing 373 bbls. of 22.1 gravity initially from 3,920 feet. In the Lost Hills field, Associated Oil Co. has completed No. 9-A-3 Williamson in section 11-26-20 pumping 60 bbls. of 13.4 gravity from 1,560 feet. Associated next completion should be No. 5-M-3 in section 2-26-20 as the bit is rotating in the pay. In the Round Mountain field, Honolulu Oil Corp. completed No. 24 in section 18-28-29 good for 212 bbls. of 15.4 gravity from 2,064 feet. The hole was finished with a 7-inch liner including 69 feet of perforated.

Los Angeles Basin

In the East Coyote field of Los Angeles Basin Standard Oil Co. completed No. 2-8 Coyote flowing 410 bbls. of 22.1 gravity cutting 3 per cent. This hole was finished with a 4¾-inch liner carrying 383 feet of perforated. Tide Water Associated Oil Co. No. 52 Anaheim was good for only 30 bbls. of 21.5 gravity cutting 60 per cent upon completion at 3,650 feet and will require further work. Bandini Petroleum Co. did not have much luck in reconditioning No. 1 Kammerdiner as it pumped only 35 bbls. of 20.5 gravity from 2,855 feet. In the Brea Olinda field, Fullerton Oil Co. recompleted No. 20 Brea pumping 45 bbls. of 19.6 gravity after plugging back from 5,483 feet to 4,010 feet. In the Dominguez field Shell Oil Co. completed No. 89 Reyes flowing 333 bbls. of 33.4 gravity and 1,700,000 feet from 7,550 feet. Texas Co. No. 13 Harlow Kent in the Long Beach field was completed pumping 57 bbls. of 23.5 gravity from 3,332 feet.

Ten Section

In the Ten Section field south of the Greeley field, Shell Oil Co. recompleted No. 1-A Kern County Land, the discovery well, after redrilling and deepening from 7,888 feet to 8,240 feet. It was returned to production flowing 3,840 bbls. of 35.1 gravity and 3,398,000 feet of gas. The hole was finished with a 4¾-inch liner cemented through perforations at 8,054 feet and which carried 174 feet of perforated opposite the productive formation. Shell's purpose in deepening the hole was to cut down the volume of gas and increase production of crude. This was accomplished by casing off the gas cap and producing from below this point. The gas oil ratio was reduced very substantially along with the reduction in gas volume. No. 23-A Kern County Land in section 30-30-26 bottomed at 8,039 feet with a 9-inch water string landed at 7,905 feet should be completed soon but No. 21-A Kern County Land in section 14-30-25 has another 2,000 feet to make before being given a production test. The joint test of Superior Oil Co. and Union Oil Co. in section 11-30-26 has reached 10,010 feet and while drilling will continue the outlook is not any too promising as the hole has been devoid of important showings. Signal Oil Co. test in section 21-30-27 is rotating at 8,075 feet with no showings.

Greeley

Standard Oil Co. extended the eastern limits of production in the Greeley field a few days ago by completing No. 11-3 Kern County Land in section 20-29-26 flowing 1,560 bbls. of 42.9 gravity and 14,000,000 feet of gas from 7,800 feet. Completion of this well is interesting because No. 11-2 Kern County Land between it and the discovery well is already down below 8,340 feet and has not yet picked up the pay. No. 11-3 Kern County Land cored approximately 150 feet of highly saturated oil sand and was still in the pay when drilling operations were concluded. Ohio Oil Co. has started rig for No. 2-E Kern County Land about midway between the Greeley and Ten Section fields in section 6-30-26.

Wasco

Continental Oil Co. has been experiencing difficulty in developing sustained production in its Wasco wildcat in Kern County section 8-27-24 but is not a bit disappointed because this well has shown enough to justify additional drilling. The company has tentatively staked location for a second test north of No. 1-A Kern County Land. Continental's initial wildcat has drill pipe stuck off bottom, 9,591 feet, and the company has been attempting to produce through the drill pipe by using exceptionally small tools. A total of

(Continued on Page 98)

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.
Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E. Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Orcutt*
14-14.9	$ .80	$ .79	$ .74	$ .78	$ .79	$ .80	$ .76	....	....	....	$ .80	$ .76	$ .76	$ .77	$ .78	....	....	$ .70	$ .70	$ .70	....	....	$ .70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	$ .70
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$ .70	.74	.74	.71	$ .70	....	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.82	.77	.80	....	.70	.78	.78	.72	.70	....	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$ .78	.73	.82	.82	.74	.70	....	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	....	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$ .84	$ .79	....	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	....	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	....	.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	....	1.02	.95	....	.89	.99	.86	.88	1.01	.98	.90	.83	....	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	1.06	1.02	....	....	....	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.95	.95	1.10	1.06	....	....	....	.95	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	1.15	1.10	....	....	....	.97	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	1.20	1.14	....	....	....	.99	....
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	1.25	1.18	....	....	....	1.01	....
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	1.29	....	....	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1.34	....	....	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	1.20	1.17	1.38	....	....	....	$1.19	....	....
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	1.23	....	....
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.25	....	1.29	....	....	....	....	....	1.27	....	....
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.33	....	....	....	....	....	1.31	....	....
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	1.35	....	....
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	1.39	....	....
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	1.43	....	....
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over.

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Apr. 26.—There was an encouraging increase in field operations in all the fields of the Central West territory. A review of completed operations shows three oil producers, one gas well and one dry hole in the Illinois field, one producer and three failures in Kentucky, two producers and three failures in Indiana and six gas wells, three dry holes and eight producers with a total new production of 92 bbls. in the Ohio field.

ILLINOIS FIELD

Pure Oil Co. has started work on three new tests in the central coal basin area of Illinois. These are to be drilled to test the lower horizons at approximately 7,000 feet. Local operators are of opinion oil will be found at about 3,000 feet, as in two previous tests, and that it will be some time before a well is sunk to the Trenton or St. Peter formations.

Two of the locations are in Wayne County, one on the Stella Billington property, SE SE NE section 27-1n-7e, Bedford Township, and the other on the E. C. Brach lease, NW NW SW section 26-1n-7e. Derricks are being erected on both locations. The other test is on the B. Travis farm, SW NE section 33-3n-8e, Clay Township, Clay County.

Adams Louisiana Oil Co. has completed the second test on the Glenn Merryman lease, SE SW section 21-4n-1e, Patoka Township, Marion County. Completed in the Benoist sand of the Chester series at 1,420 feet, it had an initial production of 72 bbls. the first 20 hours on pump. Same company's No. 3 on this lease is nearing completion and a location has been staked for No. 4. Adams Louisiana Oil Co. test on the J. H. Boye property, NW NW section 32-4n-1e, same county, is nearing completion. In the same county, section 33-4n-1e, Sunflower Oil Co. is spudding on the W. W. Murfin property. In NW SE NW section 27-4n-1e, Wiser Oil Co. is rigged up on the Seth Martin lease.

In the Barteiso pool, Clinton County, Ohio Oil Co. No. 3 C. Trame, section 8-1n-3w, was completed in the Carlyle sand of the Chester series at 1,049 feet and has an estimated production of 60 bbls. In the same county, section 28-2n-3w, Wade Township, W. C. McBride, Inc., No. 1 Stephen Holtgrave was abandoned as a failure after being drilled through the Paint Creek formation of the Chester series at 1,206 feet without a show of oil or gas. In Santa Fe Township, section 5-1n-3w, Santa Fe Oil & Gas Co. is rigged up on the H. Robbin property.

Warren Hastings & Co. No. 1-A W. A. Lagow, section 30-5n-10w, Russell Township, Lawrence County, topped the Pennsylvanian at 619 feet and was completed as a 824,000-foot gas well at 622 feet.

In McDonough County, section 16-4n-4w, Lamoine Township, Thomas Terril & Co. No. 2 John Hughbanks was completed in the Hoing sand, Upper Devonian, at 425 feet and produced 3 bbls. after a shot of 45 quarts.

Boone Oil Co. has staked a location for the second test on the Snedeker Brothers property, in section 15-8n-8w, Hillyard Township, Macoupin County.

KENTUCKY FIELD

The largest producer of the week in the Central West, and the only one in the Kentucky field, was Ohio Oil Co. No. 11 G. B. McManama, 174 acres, near Grindstone Hill, in McLean County. This well made 100 bbls. the first 24 hours after a shot. One mile west of Livermore, in the same county, Stevenson & Co. have abandoned the test on the Bob Burns farm as a failure.

In Ohio County, about 3 miles east of Livermore, Hillerbrand & Co. have abandoned the test on the M. Hipalie property. In the same county, between Green and Rough Rivers, Jenkins & Co. No. 1 Louisville Land Bank has been abandoned as dry.

INDIANA FIELD

Operations in the Indiana field have also shown a large increase and many new locations are being staked. In Gibson County, NE SE section 20-1s-9w, Washington Township, Euclid Oil Co. No. 10 Mumford Watkins was drilled to total depth of 1,656 feet and had an initial production of 4 bbls. In section 30, same township, Big Four Oil & Gas Co. has abandoned the test on the Mary Richardson farm as a failure.

In DeKalb County, section 5-35n-13e, Smithfield Township, Dekalb-Steuben Oil & Gas Co. is drilling below 1,027 feet on the George Milks property.

In Vanderburgh County, SW NE section 20-5s-10w, Center Township, Rex-Pyramid Oil Co. No. 7 J. W. Builtman was drilled to a total depth of 1,045 feet and has an estimated production of 5 bbls. In section 30, same township, P. E. Tichenor No. 1 O. and E. Eular has been abandoned as dry. In Perry Township, section 18-6s-11w, J. S. Young, Jr., No. 1 H. Kramer was drilled to a total depth of 1,200 feet without a show of oil or gas and has been abandoned. In Scott Township, section 25-4s-11w, J. B. Moffett is drilling below 500 feet on the H. J. Kron property. In German Township, section 31-5s-11w, John Knapp is drilling on the Hornbrook & Baertich properties.

OHIO FIELD

A decided increase in completed operations was apparent in the Ohio field. A recent survey by the federal department of commerce places the Ohio field third in number of gas wells in gas-producing states. It was reported there are about 6,400 producing gas wells in the Ohio field at this time.

Although several fair-sized producers were brought in during the week in the Ohio field, the most important development was the showing of oil made in Holmes County. This test, which is being drilled by Mehowa Oil & Gas Co. on the H. E. Miller property, in section 3, Washington Township, was drilled through the Red shell at 2,783-90 feet, where it made the showing of oil, through the Clinton sand at 2,845-56 feet, which was dry, and is now drilling below 2,873 feet. The well has made 265 bbls. of oil naturally from the Red shell in seven days, or an average of 37 bbls. a day. This is without doubt the largest showing of oil, and in fact would make the largest producer if completed, brought in in this section of Ohio in many years.

The largest producer in this field the past week was Kachelmacher Estate No. 19 Hemlock Coal Co., section 25, Coal Township, Perry County. Drilled through the Clinton sand at 3,575-3,609 feet, it produced 45 bbls. the first 24 hours after a shot of 90 quarts. In the same county, section 18, Clayton Township, Mid-East Gas Co. is rigged up for a second test on the Emma Williamsmetal property. In section 30, Monroe Township, Kachelmacher Estate is rigged up on the E. H. Davis lease.

In Hocking County, section 6, Ward Township, Preston Oil Co. No. 146, Sunday Creek Coal Co. was completed below the Clinton sand at 3,625-76 feet and gauged 168,960 feet of gas and produced 30 bbls. of oil the first 24 hours after a shot. Ohio Fuel Gas Co. has staked a location for No. 150 on the Sunday Creek Coal Co. in Lot 2, section 10, Ward Township.

In Vinton County, section 4, Brown Township, Vung & McCartney No. 1 Celina Cornish, which made 1 bbl. naturally, has been plugged and abandoned.

Leathers & Co. are spudding on the Fred Jarrett farm, a few miles from Oleny, in section 4, Hartland Township, Huron County. Same operators are completing a test on the J. & M. Bellamy farm, in section 4.

In Medina County, section 8, Liverpool Township, Obermiller Brothers have abandoned the test on the F. Kleinknecht lease. Completed below the Clinton sand at 2,838-48 feet, it gauged 16,000 feet of gas. In Lot 55, Litchfield Township, Passon & Co. are rigged up on the Steve Mameth property. In Lot 47, Granger Township, Ohio Fuel Gas Co. has completed the test on the Charles Ganyard property as a commercial gas well below the Clinton sand at 3,446-54 feet.

Two new wells have been started in Ashtabula County. One is C. A. McMillen No. 5 Tibbitts Walker, Lot 34, Saybrook Township, and the other is a test on the George Bissel farm, by the same operator, in Lot 88, same township.

In Holmes County, section 3, Washington Township, Lydic Oil & Gas Co. is rigged up on the Gladys Bell lease.

In the Lima field, section 36, Harrison Township, Henry County, N. L. Stevens No. 1 John Nagel was completed below the Trenton sand at 1,694-1,744 feet and gauged 52,000 feet of gas and produced 10 bbls. the first 24 hours after a shot.

Ferguson & McCullough & Co. No. 3 Henry Gillespie, section 15, Jefferson Township, Guernsey County, was drilled through the Berea sand at 1,195-1,241 feet, where it made three bailers of water through a break to the sand again at 1,248-60 feet, where it gauged 496,000 feet of gas naturally. In section 10, Liberty Township, Joe Flannery & Co. No. 3 R. C. McKahan was drilled through a broken Berea formation topped at 1,030 feet to a total depth of 1,106 feet and gauged 22,000 feet of gas naturally. Operators are planning to tube. In Lot 24, Cambridge Township, Hayes Ferguson & Co. have staked a location on the Elizabeth Ney and others property.

In Tuscarawas County, section 1, Washington Township, George Jewell No. 1 Frank Helter was drilled through the top Berea sand at 1,090-98 feet, where it gauged 10,000 feet of gas; through the second Berea formation at 1,130-33 feet, where it gauged 32,000 feet of gas and is drilling in a broken sand at 1,165 feet.

H. B. Walker & Co. has completed the test on the R. E. Griffin lease in section 11, Washington Township, Monroe County, as a 2-bbl. producer. Scheduled for the Berea sand it was drilled through the Injun sand, at 1,486-97 feet, through the bottom of the Squaw at 1,669 feet, through the shell at 2,002-38 feet, and failed to find the Berea. It was shot in the Injun sand, where a show of oil was made, with 30 quarts. In section 23, Perry Township, Blue Ridge Oil & Gas Co. has rigged up for No. 8 on the Rex Kindall (William Foreaher) property. In section 24, same township, Charles Hogue is drilling below 1,500 feet on the W. S. Howell lease. In section 30, Benton Township, Hill Oil & Gas Co. is moving a machine on location for No. 3 on the A. & J. McCaslin property.

In Knox County, section 23, Union Township, Upham Gas Co. No. 1 Julius Smith was drilled through the sand at 3,025-81 feet, gauged 165,000 feet of gas naturally and the hole filled 700 feet with oil and will be shot. In section 4, same township, H. E. Perkins No. 1 William Durbin was drilled through the first Clinton sand at 2,792-2,824 feet, through the second Clinton sand at 2,836-48 feet, and is reported to have 1,500 feet of fluid in the hole. In section 22, Union Township, Preston Oil Co. has staked a location on the William Mizer property.

In Ashland County, section 3, Hanover Township, Rutlege & Mosholder No. 1 D. E. Ringler was drilled to a total depth of 2,850 feet without finding the sand and has been abandoned.

O. K. Parrett No. 6 A. A. Goddard, section 29, Wesley Township, Washington County, was completed below the Mahoning sand at 606-27 feet and pumps 1 bbl. a day after a shot of 30 quarts. In section 26, same township, Burt & Co. No. 10 T. J. Nice was completed below the first Cow Run sand at 371-81 feet and is pumping 1 bbl. a day after a shot of 10 pounds. In section 29, O. K. Parrett is drilling below 400 feet in No. 7 A. A. Goddard. In section 28, Grandview Township, C. D. Uhl No. 12, on his own property, gauged 20,000 feet of gas in the Injun sand at 1,590-1,625 feet. The volume blew down and the well will be plugged. In section 21, same township, Hall & Henning Co. are moving a machine for No. 4 on the J. W. Pryor lease.

In the same county, section 27, Independence Township, J. O. Herian & Co. are spudding a second test on the John Eddy farm. In Lot 2, Muskingum Township, Charles Vaughn is rigged up for No. 9 Adna Vaughn. In section 11, Marietta Township, Hupp & Yerian are rigged up for No. 8 Washington County Infirmary.

Penn Construction Co. No. 2 Ward White, in section 12, Marion Township, Morgan County, being drilled deeper from 875 feet, was drilled to 916 feet, still in the Salt sand, when the hole filled with water, and was abandoned. In section 19, same township, Bowman Brothers are drilling on the L. C. Davis property.

Carpenter & Glazier No. 18 Jane and John Smith, section 13, Ames Township, Athens County, was completed below the first Cow Run sand at 312-23 feet and is pumping 2 bbls. of oil a day after a shot of 20 quarts. In section 35, Rome Township, Gibson & Ross No. 3 N. E. Dodds was drilled through the second Cow Run sand at 622-30 feet, where it made 40,000 feet of gas; through the Stray sand at 679-94 feet, where it made 10,000 feet;

(Continued on Page 98)

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Apr. 24.—On the west side of the Turner Valley structure, 22 wells are drilling and seven more are preparing to spud. The activity extends 14 miles from National Petroleum Corp. No. 2, LSD 14, section 9-18-2w5, in the far south to Phillips Royalties No. 1, LSD 16, section 16-20-3w5, in North Turner Valley; but the most active area is the strip 3 miles north and south along the eastern edge of sections 17 to 32, Township 18-2w5. So far, there has been no drilling undertaken on the west flank of the old Central Turner Valley field.

In North Turner Valley, Phillips Royalties No. 1, LSD 16, section 16-20-3w5, bottoming at 2,730 feet, is cleaning out and lowering 13⅜-inch casing below 2,000 feet.

In section 30-19-2w5, Dalhousie Oil Co. No. 8, LSD 6, bottoming in the lime at 6,911 feet, is waiting for a shot. Mercury Royalties No. 1, LSD 8, section 5-19-2w5, is changing to rotary equipment after cementing casing at 2,814 feet. Mercury Oils No. 8, LSD 3, section 4-19-2w5, is below 2,755 feet, carying 15⅜-inch casing. North American Petroleums No. 1, LSD 10, section 5-19-2w5, is spudding.

In section 33-18-2w5, Royalite Oil Co. No. 5 Sterling Pacific, LSD 12, is below 2,713 feet. No. 4 is making slightly over 1,000 bbls. a day and No. 3 approximately 94 bbls.

In section 32-18-2w5, Royal Crest Petroleums No. 1, LSD 9, is below 701 feet. West Turner Petroleums, Ltd., of Vancouver, British Columbia, has located No. 1 test in LSD 2, same section, north of Commoil No. 1. West Flank Oil Co. No. 1, LSD 1, has derrick up for rotary outfit and will spud about May 1. It is in the southeast corner of the section, offsetting Royalite No. 4 Sterling-Pacific to the west. West Flank No. 2, in the northeast corner of same LSD, is working on cellar. No. 3 will be drilled in LSD 8, same section.

In section 28-18-2w5, Richland Royalties No. 1, NE quarter LSD 12, is below 2,000 feet after setting 16-inch casing. Richland No. 2, LSD 5, is cleaning out below 3,400 feet after setting 13-inch pipe at 3,250 feet. Richland No. 3, LSD 14, is below 5,300 feet and through the Home sands. Three Point Petroleums No. 1, LSD 12, is below 375 feet. Model-Spooner-Reward No. 1, LSD 4, is spudding. Renfrew Royalties No. 1, LSD 3, same section, with a small naphtha production in the lime, is waiting for a shot.

In section 29-18-2w5, Granville Oils No. 1, N half LSD 16, is below 1,805 feet. Commoil No. 1, LSD 15, is below 1,250 feet after underreaming. It is planning to lower casing to 3,000 feet and drill open hole to the lime where 6⅝-inch casing will be cemented. Share Royalties No. 1, N half LSD 8, is below 750 feet. National Petroleum Corp. No. 1, S half same LSD, is rigging rotary outfit. Globe Royalties No. 1, LSD 7, same section, is below 300 feet. Davies Petroleums No. 1, LSD 2, is below 550 feet after cementing for water shutoff. Sunburst Oil Co. No. 1, N half LSD 1, is below 850 feet and preparing to run 10¾-inch casing after which open hole for 6⅝-inch will be carried to the lime.

In section 21-18-2w5, Davies-Royalite No. 2, LSD 13, is below 454 feet after cementing surface casing at 400 feet. Newfold Royalties No. 1, LSD 11, same section, bottoming in the limestone at 6,254 feet with a small naphtha production, is testing production after acidizing with 7,000 gallons.

In section 20-18-2w5, Spy Hill Royalties No. 1, LSD 16, is moving equipment. Monarch Royalties No. 1, LSD 9, is below 3,400 feet. Brown Oil Corp. No. 2, LSD 8, is below 1,362 feet. Sunset Oils No. 1, LSD 10, has spudded with Clarence Snyder and Hilary Head handling the tools. Standard outfit will be used to 3,000 feet, finishing with rotary. The company is jointly sponsored by McDougall-Segur Exploration Co. and Alberta Pacific Consolidated Oils, Ltd., of Calgary. Royal Canadian Co. No. 1, LSD 15, same section, is working on cellar and hauling derrick.

In section 17-18-2w5, Prairie Royalties No. 1, LSD 16, bottoming at 1,886 feet, is reaming to set casing.

In section 16-18-2w5, Brown Oil Corp. No. 1, LSD 14, is below 1,233 feet. Firestone Petroleums No. 1, LSD 13, is below 363 feet. Richwell Oil Co. No. 1, LSD 5, is spudding.

In section 9-18-2w5, National Petroleum Co. No. 1, LSD 14, is below 200 feet. Mid-Royal Oils, Ltd., is arranging for a test in LSD 3, same section.

High River—Aldersyde

In the High River area east of Turner Valley, Arca Development Corp. No. 1, NW section 24-18-1w5, is below 8,840 feet after cementing back from 8,930 feet.

On the De Winton structure, northeast of Turner Valley, Marquis Oil Co. of Vancouver, British Columbia, has taken over the unfinished Anglesey-Lakeview No. 1 test in LSD 1, section 22-21-1w5. The test was drilled to 4,500 feet by an English group headed by the Marquis of Anglesey, and has been standing sealed since 1929. The Marquis company is planning to deepen approximately 2,500 feet to test the Paleozoic lime, using rotary tools. Work will be resumed this spring.

Tests in the Foothills

In the Forest Reserve area west of Olds, Hunter Valley Oil Co. No. 1 McLaren is below 7,255 feet.

On the Kootenay dome west of Calgary, Roxana Petroleum No. 1, section 8-24-7w5, is below 2,467 feet, and apparently in the contact zone between the Banff shales and the Devonian limestone.

On the Birch Ridge structure, Elbow Oils No. 1, LSD 11, section 35-22-5w5, is below 5,012 feet and planning to set casing in the brown sand of the Dalhousie formation.

On the Highwood-Sinclair structure west of South Turner Valley, South End Petroleums No. 1 (formerly Imperial-Highwood) LSD 6, section 36-18-3w5, has resumed from 4,525 feet. The Globe Drilling & Development Co. of Edmonton has the contract. In the previous drilling the test reentered the Fernie shales after encountering the Madison limestone.

On the Mill Creek structure west of Pincher Creek, Weymarn Petroleums No. 2, LSD 5, section 7-6-1w5, bottoming at 5,960 feet with good shows of oil and gas, is running casing preparatory to testing production.

Test Duncan Structure

On the Duncan structure, 55 miles northwest of Calgary, an important new wildcat test has been started by Spindletop Oils, Ltd., in LSD 4, section 1-30-6w5. Location is in the Silver Creek area, between the Little Red Deer River and Fallen Timber Creek. Preliminary work was started last year by Carl L. Ohlson and associates. The company headed by Mr. Ohlson has 2,000 acres blocked on structure which has been geologized by Dr. J. O. G. Sanderson and Dr. J. A. Allan. The reports indicate an anticlinal fold about 8 miles long and one-half mile wide, location being on the west flank near the crest. Officers of the company are Carl L. Ohlson, Herbert Greenfield, C. J. Stewart and A. W. McGuire, and royalty interests have been taken by several Calgary companies including Commonwealth Petroleums, Calmont Oils and Vulcan Oils. Spindletop No. 1 is spudding below 100 feet.

East-Central Alberta

In the Wainwright field, East-Central Alberta, Montreal-Alberta Oil Co. No. 1, LSD 2, section 15-45-7w4, bottoming in the limestone at 3,410 feet, is adjusting packer for a production test. It got the lime at 3,190 feet and 200 feet in encountered a greenish, 43 gravity crude, which stands several hundred feet in the hole.

In the Ribstone area, London-Ribstone Petroleums No. 2, LSD 5, section 22-43-3w4, is preparing to resume from 2,122 feet where work was suspended in 1930. It got the top of the Lower Cretaceous around 1,990 feet with oil shows at 2,017 and 2,055 feet and will be deepened for commercial production. London-Ribstone No. 1, LSD 14, section 10-43-3w4, discontinued at 2,433 feet after getting the top of the lime around 2,415 feet, will be deepened for a thorough test of the limestone. The company is sponsored by Vancouver interests headed by G. N. Beattie and drilling will be handled by Gillies-Credille Drilling Co. of Edmonton.

Border Fields

On the Majestic structure west of Taber, Plains Petroleum No. 1, LSD 14, section 29-9-17w4, bottoming at 3,816 feet, is flowing about 50 bbls. a day with 5 bbls. water. Plains No. 2, LSD 11, section 25-9-17w4, a quarter mile south of No. 1, is working on derrick.

H. M. B. Inglis, geologist of Calgary, is making a report on 240 acres held by Tavan Syndicate, about 3½ miles south of Plains Petroleum No. 1. Development will be handled by British Columbia interests. C. B. Magrath of Chicago, president of Majestic Mines, Ltd., visited the field recently in connection with prospective development work on his company's acreage.

In the Lethbridge district, Empire Drilling Co. is hauling derrick timbers and equipment for No. 1 test for Lethbridge Petroleums & Refining, Ltd., in LSD 12, section 11-8-22w4.

In the Cardston area, Franco Oils No. 1, LSD 6, section 5-3-25w4, is fishing at 4,583 feet.

Pontiac Oil Co. has been incorporated at Vancouver and will probably drill on the Del Bonita structure in SW quarter section 3-1-21w4, southeast of the Terminal and Sunshine wells. Officers of the company are: President, H. A. Roberts; vice president, Ivor D. Lewis; directors, R. B. Abernethy, A. S. Matthews, F. A. Begg; secretary-treasurer, Sydney H. Balfour.

Steveville Test Planned

The Steveville structure, 66 miles east of Gleichen, will be tested by Anaconda Oil Co. of Calgary. The only previous drilling was a test started several years ago by Steveville Oil Co., a local concern, which discontinued work at 66 feet. Favorable reports have been made on the structure by several geologists. The Anaconda company expects to start operations in May. The Madison limestone is expected at 4,200 feet, with shallower potential producing horizons between 3,200 and 3,400 feet.

Royalite Operations

The annual report of the Royalite Oil Co., major Turner Valley subsidiary of Imperial Oil, Ltd., showed a net profit for 1936 of $801,356.27, leaving the earned surplus at the end of the year $2,100,273.68. Dividends paid amounted to $1,049,958. Sales of petroleum products increased 13.7 per cent and of natural gas 7.9 per cent, the unit price for gas being unchanged while the average price of petroleum products increased from $2.33 to $2.36 a barrel. During the year Royalite No. 27 and Sterling Pacific No. 3 were completed and Sterling-Pacific No. 4 partly drilled, the two latter wells testing the crude oil area on the west flank of Turner Valley, which at the end of the year had been proved for a distance of 3 to 4 miles.

Through the acquisition of partly depleted properties and the closing of gas wells, the company endeavored to conserve gas reserves for future use; and also continued, in conjunction with the Canadian Western Natural Gas Co., the storing of surplus gas in the Bow Island field. At the end of the year the Royalite company's Turner Valley holdings of leasehold and fee simple lands totaled 7,620 acres with 64 producing wells. During the year the Director Oils, Ltd., leasehold lands were acquired and a sublease together with the Marjon-Freehold No. 1 well. The company operates a natural gas purifying plant and two natural gasoline plants in the field.

Dalhousie Oil Co., subsidiary of Royalite Oil Co., sold 1,341 bbls. of crude and 5,191 bbls. of naphtha and received additional revenue from the processing of tail gas. Its net profit was $10,480.15, bringing the earned surplus to $27,549.98. Foothills Oil & Gas Co., another Imperial subsidiary, showed $7,855 new profit and $14,127 earned surplus. South West Petroleum Co. showed $8,000 loss, bringing its operating deficit to $224,396.

Ontario Fields

In the Brownsville field, Oxford County, Ontario, H. C. Truemner and Reed Adams Development Co. No. 1, Lot 18, Concession 11, Dereham Township, is below 1,000 feet. It failed to get production in the upper horizon and will deepen to test the Clinton and Medina formations. Aloka-McNevin No. 2, Scanlon farm, Lot 25, Concession 11, finished around 940 feet with 1,500,000 feet a day. Archie Treleaven No. 6, Rock farm, Lot 22, Concession 12, finished around 970 feet good for 410,000 feet a day. This is the most southerly well toward Corinth.

In the Bayham end, Brownsville-Nelson Gas Syndicate No. 2, Nelson farm, Lot 6, Concession 10, got a flow of 200,000 feet at 960 feet depth. It later blew down to 40,000 feet. On deepening, water was

(Continued on Page 98)

West and North Texas

By L. E. BREDBERG

CRANE DISCOVERY MAY OPEN POOL OR WADDELL EXTENSION

FORT WORTH, Tex., Apr. 26.—Tests showing for producers, one in Crane County and one in Howard County, may prove pool openers or extensions which may connect two fields. The Crane County well, Sinclair Prairie Oil Co. No. 1-24 University, section 13, Block 35, University lands, about 2½ miles northwest of the Waddell field and about 1½ miles southeast of the small Clark and others No. 1 Jordan, may connect with either or both of these two producing areas, or prove the opener of a distinct new pool, although this is not likely. It swabbed and flowed 63 bbls. of oil in 24 hours while drilling at 3,593 feet, topping the pay at 3,512 feet and logging increased at 3,524-29 feet and 3,533-38 feet. It also swabbed 117 bbls. of oil in 18 hours at 3,546 feet. It will probably be carried deeper and acidized or shot before completing.

Ellenberger Discovery

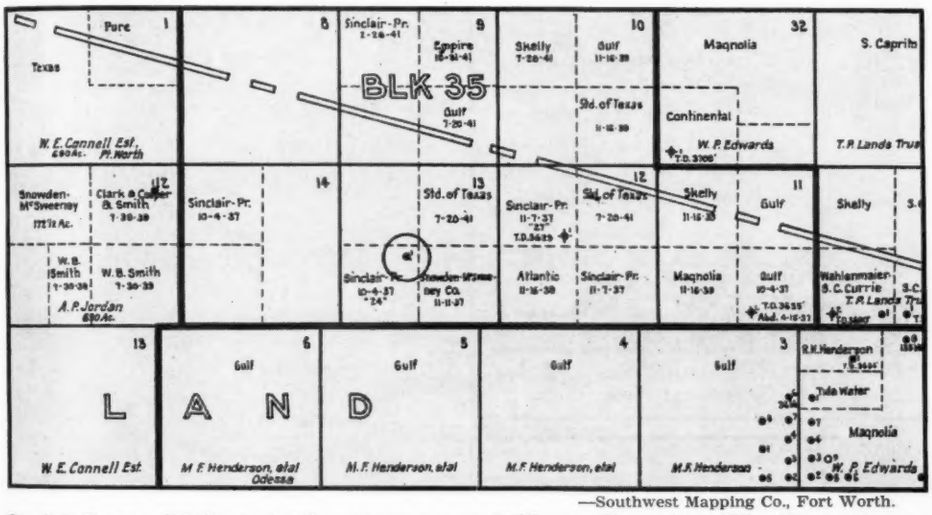
The Ellenberger discovery of Gulf Oil Corp. on the Waddell and others ranch, in the Sand Hills field, about three-quarters of a mile southwest of small pumping wells in the Grand Falls area in southern Ward County, is extending that area considerably. It is shut down at 2,210 feet, flowing by heads, the first well in this sector to flow, which will stimulate development.

New Wildcat for Yoakum

L. G. Stogner, who has been busy leasing and blocking acreage in Yoakum and Cochran counties since the Cochran strike was made several months ago, is planning to sink a wildcat about 6 or 7 miles northwest of the Bennett pool in the southeastern corner of Yoakum County. He has some 1,920 acres in this area, including sections 606, 607 and 638 in Block D, John H. Gibson Survey. Location has not yet been announced.

Bailey Wildcat

Bond & Harrison of Dallas, who are drilling a wildcat in the northeastern part of Cochran County, are preparing to sink a wildcat about 10 miles farther north.



—Southwest Mapping Co., Fort Worth.

Sinclair Prairie Oil Co. test either opens a new field or will create a 2¼-mile western extension to the Waddell field or be linked with a small producer 1¾ miles to the northwest, in northern Crane County

western Crane County, made last week when the well flowed 283 bbls. of 45 gravity oil in three hours, when bottomed at 6,014 feet, lost the tubing out of the hole this week, when heavy gas pressure blew it out. Tubing had to be rerun and high-pressure control equipment connected to prevent recurrence. This is the first Ellenberger production opened outside the Big Lake field in Reagan County.

Howard Discovery

Moore Brothers of Midland have opened a field or an extension to the Dodge or Chalk fields in eastern Howard County, in No. 1 Texas Pacific Land Trust, section 33, Block 30, Township 1s, T.&P. Survey. The well topped the pay at 2,700 feet and drilled to 2,725 feet before shutting down to run 6⅝-inch casing. Oil was rising in the hole at the rate of 100 feet in one and one-half hours before shutting down. It will be carried another 200 or 225 feet before shutting down to shoot. It is in an area in which three dry holes were previously drilled, one by the same operators.

Ward Extension

A. Bradford No. 1 Sun-Wathen, 330 feet from the northeast and 990 feet from the southeast of the northeast 80 acres of section 8, Block 32, H.&T.C. Survey, in Bailey County. Mitchell & Sullivan have been granted contract; location not yet reported.

Gaines Wildcat

Another wildcat in northern Gaines County is to be drilled by Amon G. Carter of Fort Worth, and others. It will be drilled in the NW quarter of section 44, Block AX, P.S.L. Survey, on the A. L. Wasson ranch, about 2½ miles northeast of the same operators' No. 1 Wasson which has been making gas at 3,092 feet, causing a fishing job.

Outpost test for the Harper pool in Ector County will be that of Shell Petroleum Corp. on the E. F. Cowden ranch, 2,310 feet from the south line and 330 feet from the east line of section 26, Block 44, Township 2s, T.&P. Survey, three-quarters of a mile north of production.

Schleicher County

Magnus Oil Co. No. 1 Judkins & Spencer, section 4, W. W. Russell, grantee, about 14½ miles east of Eldorado in Schleicher County, which showed for a deep producer about a year ago when drilled to 6,527 feet, but plugged back to 5,912 feet to test upper showings of oil, was acidized with 7,500 gallons of acid this week, which apparently failed to increase the oil showing in the hole. It was shot last February, with 145 quarts from 5,814-5,925 feet, but that too failed to make a producer of it. The oil came from the Ellenberger topped at 5,902 feet. Elevation is 2,209 feet. The test is on a large block farmed out by Pure Oil Co.

Fisher Wildcat

Snowden & McSweeney of Fort Worth have staked location for a wildcat in Fisher County, to be drilled on the W. F. Kirkpatrick ranch, 7 miles northeast of Royston and 4 miles west of production of the General Crude Oil Co. It is in the J. M. Yopp Survey.

A new wildcat for Jones County is to be drilled in the vicinity of a dry hole recently abandoned on the J. J. Steele lands, 6½ miles southeast of Anson in northern Jones County. Fain-McGaha, Inc., and Ungren & Frazier will drill this test on the J. E. Garland lands, and will put it down to 2,500 feet, or to the Swastika sand zone, where the previous test had a good showing of oil.

Jones Discovery

Fain-McGaha, Inc., have opened another field for Jones County in No. 1 Claud Lewis, section 37, Block 15, T.&P. Survey, 5½ miles NE of Hawley. It logged sand from 1,917-20 feet, cemented pipe on bottom, then perforated at 1,924-31 feet. The well pumped only 20 bbls. in 24 hours, a small well from the Bluff Creek sand, but two offset locations have already been staked.

Two other wildcat locations have been staked in the county this week, one by Art Cox on the West lands in the Godwin subdivision of Dewitt County school lands, 10 miles east of the Noodle Creek pool, and the other by Iron Mountain Oil Co. on the C. Olander farm 3 miles north of the Jennings pool. The latter is to be a 3,000-foot test, much deeper than the majority of wildcats in Jones County.

Terry to Deepen

Joe Crump and Hugh Corrigan of Midland have started deepening the old test on the Lewright lands in section 1, Block C-37, P.S.L. Survey, in the southeastern corner of Terry County. It was abandoned by W. L. Pickens and others at a total depth of 4,975 feet.

WEST CENTRAL AND NORTH TEXAS

Bolivar Failure

The new high gravity producing area opened by Lander and others 2½ miles southwest of Bolivar in Denton County got a set back this week when Harry Culver No. 1 C. Waide, in the southeastern corner of the J. Chisum Survey and about 1 mile northeast of the Lander discovery, proved dry at a total depth of 1,909 feet in granite. This is the first completion in the area since the 80-bbl. pumper was completed on the Forrester lands in the J. B. Baroux Survey a couple of weeks ago.

Denver Producing & Refining Co. has staked location for No. 1 Mrs. R. C. Johnson, in the S. Yoachum Survey, a north offset for the Lander discovery, and other tests are expected north of the discovery since the purchase of 472 acres of the J. D. Waide lands by F. W. Merrick, Inc., of Ardmore, Okla.

Jack County Wildcat

W. J. Grisham and others are to spud by May 15 on their No. 1 Castleberry in the J. J. Stephens Survey, 3 miles southeast of Jacksboro in Jack County. It is to go to 3,500 feet and is on a block of 2,500 acres. Taubert & McKee of Fort Worth have the contract.

Frank W. Bennett No. 1 Matthews, 5 miles west of Bryson and 2 miles south of the Knox pool in Young County, but in Jack County, will be watched this week when a test is made in the Buttram sand topped at 2,140 feet, or minus 890 feet. Total depth is 2,140 feet,

1 foot in the sand, where 8-inch pipe was set preparatory to testing.

Clay Tests

L. T. Burns is to drill a 3,500-foot test on the H. Sanzenbacher lands, in the L. N. Sparks Survey, 10 miles south of Henrietta, in wildcat territory in Clay County, and Foster Minerals Co. one of the same depth north of the town of Byers, in Block 126, Lassiter Survey No. 288.

Deep Oil Development Co. No. 1 L. F. Wilson, on the southwest edge of the Chalk field, defines the deep producing horizon in that direction. It proved a failure at 3,600 feet. It formerly produced from the Upper Canyon at 2,205 feet, but was deepened.

The North Texas district, which last week broke all previous records when 91 locations were staked, had only 63 staked this week while 46 tests were completed.

Deep production on the Munger farm was extended one-half mile to the east when Petroleum Producers No. 1 First National Bank, section 29, W.V.F. lands, Wichita County, flowed 75 bbls. per hour.

WEST CENTRAL TEXAS COMPLETIONS

Brown County

Charter Oil & Gas Co. No. 1-W Lobstein, 1,358 feet, dry and abandoned.

Fisher County

General Crude Oil Co. No. 11 Flanigan, 3,112-14 feet, 132 bbls.

Jones County

Danciger Oil & Refining Co. No. 3 Guitar, 1,973-2,008 feet, treated 3,000 gallons acid, 600 bbls. in 13 hours. R. B. Farris and others No. 1 Beasley heirs, 3 miles south of Nugent, total depth 2,080 feet, dry and abandoned. S. C. Herring No. 1 Mrs. E. Haynes, total depth 2,245 feet, dry and abandoned. Lueders Development Co. No. 1 Underwood, 2 miles south of Lueders, 1,651 feet, dry and abandoned. Sandy Ridge Oil Co. No. 1 Jones & Peterson, 1,932-47 feet, 45 bbls. T. K. Simmons No. 1 Hicks, 5 miles west of Lueders, 2,355 feet, dry and abandoned. Ungren & Frazier No. 13-C Dorsey, 2,203-22 feet, 626 bbls.; No. 3 Sellers, total depth 2,050 feet, dry and abandoned.

Bridwell & Fiskes No. 8 Jennings, 1,910-30 feet, treated 2,000 gallons, 210 bbls. R. B. Farris and others No. 6 Guitar, 1,986-2,009 feet, treated 3,000 gallons, 200 bbls.; No. 7 Guitar, 1,970-2,004 feet, total depth 2,009 feet, treated 2,000 gallons acid, 242 bbls. Lewis Production Co. and others No. 2 Sayles, 1,962-67 feet, 18 bbls. Petroleum Producers Co. No. 1 H. C. Harvey, 1,643-47 feet, total depth 1,665 feet, 70 bbls.

Shackelford County

Howsley & Lee No. 6 Reynolds Cattle Co., 921-55 feet, 10 bbls. S. B. Roberts & Co. No. 1 Davis, 1,740 feet, dry and abandoned. Roeser & Pendleton No. 1 Davis, 1,910-12 feet, 5,000,000 feet gas. Westexas Oil & Refining Co. No. 3 Dawson & Conway, total depth 1,719 feet, dry and abandoned.

E. E. Butler No. 13 Morris, 1,586-1,604 feet, 100 bbls. S. B. Owens and others No. 11 Morris, 1,597-1,608 feet, total depth 40 bbls. Roeser & Pendleton No. 24 Dawson & Conway, 1,595-1,600 feet, total depth 1,617 feet, 91 bbls.; No. 25 Dawson & Conway, 1,598-1,619 feet, 161 bbls. Westexas Oil & Refining Co. and others No. 1 M. Davis, total depth 1,728 feet, dry and abandoned.

Eastland County

States Oil Corp. No. 1 H. S. Schmick, total depth 1,618 feet, dry and abandoned.

Palo Pinto County

W. K. Gordon and others No. 2 Canty, total depth 4,005 feet, dry and abandoned.

Stevens County

Mudge Oil Co. No. 1 S. H. Hill, 3,205-28 feet, treated 3,000 gallons acid and shot with 15 quarts, 26 bbls.

NORTH TEXAS COMPLETIONS

Archer County

C. E. Beavers No. 1 J. R. Garvey, 865 feet, dry. L. T. Burns No. 1 C. L. Abercrombie A, 1,350 feet, dry; No. 7 W. D. Pace, 1,404 feet, dry. Consolidated Oil Co. No. 28 Portwood, 1,379-91 feet, 30 bbls. Continental Oil Co No. 1 J. L. Logan B, 1,365 feet, dry. Deep Oil and Lindsay No. 1 Wilson No. 5, 3,637 feet, dry. Fain McGaha No. 1 Hasson, 775 feet, dry. Golding & Cochran No. 16 H. E. Brown, 1,161-75 feet, 75 bbls.; No. 4 G. B. Hamilton, 1,135-39 feet, 25 bbls.; No. 3 B. R. Jeske B, 1,174-90 feet, 100 bbls. N. McChesney No. 2 Benson, 832-44 feet, 40 bbls. Petroleum Production Co. No. 1 Wilson H, 1,618 feet, dry. J. G. Steele No. 1 E. F. Watts, 1,402 feet, dry. Texas Co. No. 1 Wilson E, 1,701 feet, dry.

Clay County

Bridwell Oil Co. No. 8 Saner and others, 304 feet, dry. J. M. Seaberry No. 1 Simmons, 608 feet, dry.

Cooke County

Bridwell Oil Co. No. 4 R. W. Trew, 1,424-30 feet, 5 bbls. Petroleum Production Co. No. 10 G. T. Andress, 914-1,400 feet, 5,000 feet gas. Seitz and others No. 1 Mount, 1,230-37 feet, 50 bbls.

Jack County

Adams and others No. 1 A. B. Kuykendall, 2,998-3,010 feet, 175 bbls. Beard & Collier No. 1 Jane Wiggins, 2,936-58 feet, 335 bbls. Cato Oil Co. No. 4 J. A. Raley B, 3,041-64 feet, 610 bbls. Deep Oil Development Co. No. 1 Bryson Estate, 2,947-3,031 feet, 147 bbls. Edwards and others No. 1 J. A. and J. B. Simpson, 2,985-3,010 feet, 150 bbls. Gillispie & Perrin No. 2 L. J. Hester, 2,914-71 feet, 161 bbls. T. D. Humphreys No. 5 Cook, 2,927-90 feet, 238 bbls. Taubert & McKee No. 3 R. H. Eatherly, 3,008-35 feet, 145 bbls.

Montague County

Texas Co. No. 15 Cunningham A, 924-48½ feet, 52 bbls.

Throckmorton County

Canyon Oil & Gas Co. No. 1 Huckabee, 387 feet, dry.

Wilbarger County

Davis Oil Corp. No. 1 Waggoner A, 3,197 feet, dry. King Oil Co. No. 7 Waggoner N, 1,542-50 feet, 15 bbls. Texas Co. No. 12 Waggoner D, 2,375-2,404 feet, 20 bbls.

Wichita County

E. G. Boardman No. 1 C. P. Vanloh, 1,700 feet, dry. Bridwell No. 6 W. B. Honaker, 997-1,020 feet, 25 bbls. George W. Cooper No. 18 Waggoner C, 1,627-32 feet, 255

FRANKS
PORTABLE ROTARY
With Hydraulic Feed

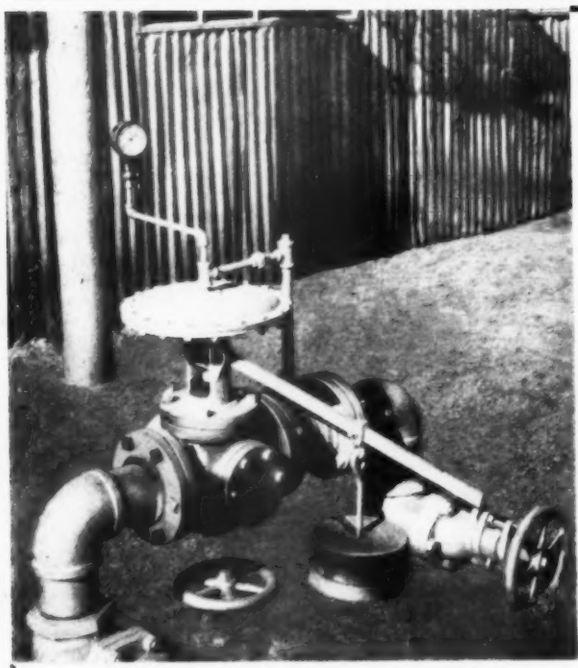
Faster drilling. Safer operation. Ready portability. Rig up and tear down in 45 minutes. Two models, for 2,000-ft. holes and for 3,000-ft. holes. *Lower Cost* for shallow production and exploration deep core work. Write for information or a demonstration.

A Franks Small Portable Rotary operating in Kansas on 2,000-ft. wells.

Our catalog is filed in the Composite Catalog. See pages 590 to 598.

FRANKS MFG. CORP.
WELL SERVICING AND DRILLING UNITS

P. O. Box 137 Whittier Station, Tulsa
Export Office: 149 Broadway, New York.



Chaplin-Fulton Regulator on 4" Fuel Line to Compressors of Gas Booster Station, Oklahoma City, Oklahoma.

Always Well Fed — but Never Too Well

Gas pressure in the fuel line is constant, therefore the engine does its work steadily and well, the compressors are never over-driven or run too slack, the booster-station performs unfailingly, and the total result is as it should be.

Just a normal, typical Chaplin-Fulton installation is pictured, the regulator in question being the Low Pressure type without Automatic Cut-off. Chaplin-Fulton equipment for all requirements of gas control has been in use more than 50 years. Catalog and full information on request.

THE CHAPLIN-FULTON MFG. CO.
28-40 Penn Avenue Pittsburgh, Pa.

bbls. Fresno Oil Co. No. 26 L. P. Ramming, 1,625-1,711 feet, 10 bbls. King Oil Co. No. 4 M. M. Stone A, 1,624-46 feet, 250 bbls.; No. 3 Waggoner R, 1,626-40 feet, 250 bbls.

Young County

Duncan Holt & Marchman No. 20 S. M. J. Benson, 898-906 feet, 100 bbls. W. D. Eastland No. 1 Herndon, 2,733-66 feet, 60 bbls. Hinson & Tidwell No. 3 Thompson, 3,753-3,918 feet, 440 bbls. Nash & Windfohr No. 24 Graham, 3,884 feet, dry. T. R. Perkins and others No. 1 A. J. White, 826 feet, dry. Rathke Oil Co. No. 14 Graham, 914 feet, dry. D. C. Thornton No. 2 Zada Daily, 540 feet, dry. Worth Oil Co. No. 20 F. M. Cullers, 536-43 feet, 3 bbls.

PANHANDLE COMPLETIONS

Carson County

Phillips Petroleum Co. No. 8 Cooper, 2,972-3,005 feet, shot, 597 bbls. on pump.

Gray County

Empire Oil & Refining Co. No. 1-C Meers, 3,188-3,240 feet, shot, 561 bbls. on pump. King Oil Co. No. 5 Jackson, 3,168-3,240 feet, shot, 438 bbls. on pump; Magnolia Petroleum Co. No. 6 Barnett, 3,193-3,290 feet, shot, 135 bbls. on pump. Ohio Oil Co. No. 6 Webb, 2,415-85 feet, plugged back to 2,467 feet, shot, 165 bbls. on pump. Shell Petroleum Corp. No. 2-A Gethings, 2,740-66 feet, shot, 526 bbls. on pump; No. 5 Haggard, 3,190-3,260 feet, shot, 582 bbls. on pump. Warner Oil Co. No. 4 Chapman, 2,695-2,730 feet, 989 bbls. on pump.

Hutchinson County

Benoine Oil Co. No. 4 Starnes, 3,128-93 feet, shot, 550 bbls. on pump. Crosbie, Inc., No. 16 Pitts, 2,985-3,058 feet, shot, 604 bbls. on pump. Drilling & Exploration Co. No. 10 Haile, 3,025-75 feet, shot, 333 bbls. on pump; No. 10 Watkins, 3,853-2,942 feet, shot, 650 bbls. on pump. Gulf Oil Corp. No. 10 Pitcher, 3,140-98 feet, shot, 214 bbls. on pump. Texlvania Oil Co. No. 3 Harvey Sisters, 2,990-3,073 feet, shot, 585 bbls. on pump.

Moore County

Rubin and others No. 4 Beard, 2,889-3,150 feet, 46,700,000 feet gas. Shamrock Oil & Gas Co. No. 2 J. T. Sneed, Jr., 2,532-2,850 feet, 44,450,000 feet gas; No. 2 Thompson, 2,805-3,335 feet, 29,182,000 feet of gas.

J. M. Koch, vice president of the Quaker State Oil & Refining Corporation of Oil City, Pa., and W. R. MacArthur, general sales manager of North Star Oil, Ltd., of Winnipeg, Manitoba, recently attended a sales conference of the North Star company at Calgary, Alberta.

Oklahoma Fields

(Continued from Page 74)

R. E. Korts and others No. 2-A Penniston, NW NE NW SW section 16-7s-5w, was abandoned at 820 feet, total depth.

Two new operations in Jefferson County were reported. Bridwell Oil Co. No. 13 Wahlgemuth, NE NW NE NW section 30-6s-5w, was drilling at 1,529 feet. Farlyn Oil Co. No. 42 Seay, NE NW SW SE section 3-7s-5w, was drilling at 435 feet.

Jackson County

Gulf Oil Corp. No. 2 Southall, SW NW SW section 2-1n-20w, Altus district, Jackson County, had Granite Wash at 1,515 feet, was bottomed at 1,568 feet, pumped 40 bbls. of oil in 24 hours and was completed.

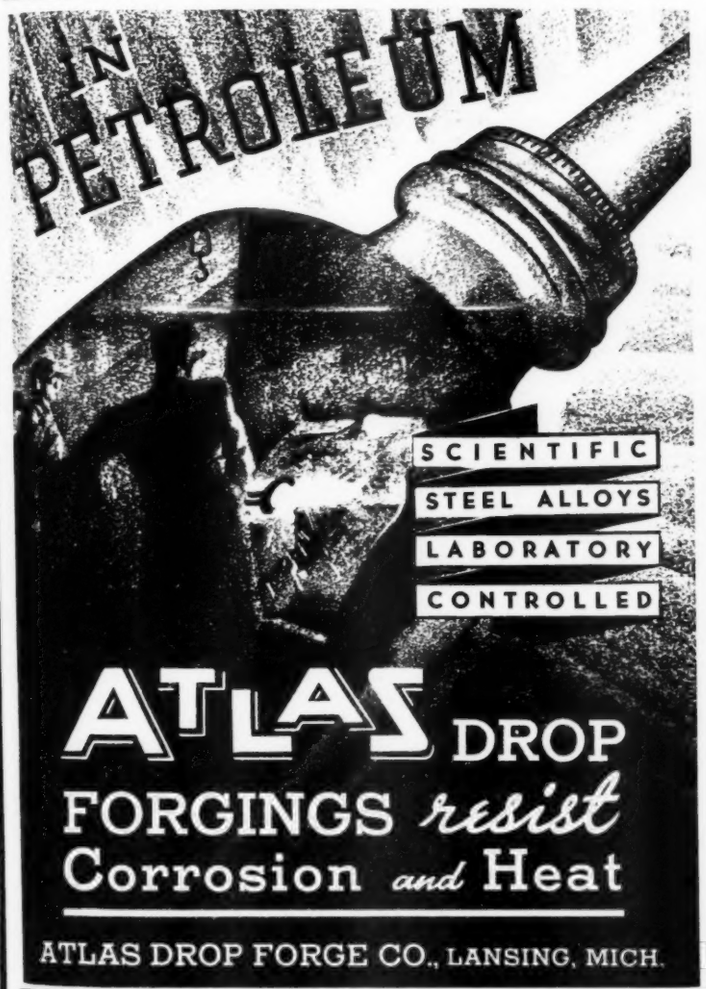
Gulf Oil Corp. was rigging up rotary tools at No. 4 Edwards, SE NE SE section 3-1n-20w.

New Operations

Indian Territory Illuminating Oil Co. No. 10 Little, SE SW NW section 6-20-8, Pawnee County, an old well being deepened, was drilling on liner at 2,706 feet.

Johnson Oil Refining Co. No. 3 Grimes, SW NE SW section 31-19-10, Tulsa County, was rigging up machine.

Bud Lewis No. 1 Bingham, NE cor. section 31-8-26w, wildcat in Beckham County, was a cellar.



ATLAS DROP FORGINGS *resist* Corrosion *and* Heat

ATLAS DROP FORGE CO., LANSING, MICH.

Renew Your Subscription Promptly

MAKE THE "*Popping off*" AROUND YOUR RIG

A PAYING PROPOSITION

Every time a SHEAR-RELIEF Valve pops some pump owner makes a profit. Popping of this valve means the loss of a nail only . . . . the sheared nail which releases the valve piston, and thereby the excess pump pressure which otherwise would have meant destruction or, at least, damage to the fluid end or to costly pump parts. Thus, the SHEAR-RELIEF Valve actually means money in your pocket every time it pops . . . . and they're popping to the profit of pump owners in oil fields everywhere.

Full details in your COMPOSITE CATALOG or in literature, mailed upon request.

The high pressure type, for slush pumps. A low pressure type serves boiler feed pumps or similar low pressure service.

FLUID-PISTON SLUSH PUMPS
ABERCROMBIE PUMP CO.
GULF BLDG. HOUSTON TEX.

SHEAR-RELIEF VALVE

Southwest Texas District

By
GEORGE WEBER

THREE FIELDS OPENED AND EYES FOLLOWING WILDCATS

CORPUS CHRISTI, Tex., Apr. 26.—Following through, Southwest Texas operators opened three new fields in the past week, and a number of wildcats were attracting attention as prospective discovery wells. Operations in proven areas were eclipsed by the wildcat completions. A large number of abandonments were reported from all parts of Southwest Texas, in field as well as wildcat locations.

Duval County figured largely in the new developments. The center of attention was probably the Frank Gravis No. 1 Vaello Puig, completed for the discovery well of the North Sweden field. This wildcat is in the southwest corner of a large tract in the San Andre grant, about 4 miles northeast of the recently opened Sweden field, and 3 miles due south of the town of Benavides.

Since the wildcat first showed oil two weeks ago, an active leasing campaign has been carried on. The test, bottomed at 4,768 feet, has sand topped at 4,762 feet. A drill-stem test at 4,762-68 feet showed a recovery of 700 feet of 43-gravity oil in 25 minutes, and casing was set. The well came in making an estimated 8 bbls. an hour on a 5/32-inch choke. Tubing pressure was recorded at 750 pounds and pressure on the casing was 840 pounds.

Due to its location in the trend of the newly opened Sweden field, and the depth at which it is producing, the Gravis discovery well is hailed as a major one. It is expected to prove the forerunner of drilling activity in that section of Duval County.

Second Field in Duval

A second new field in Duval County was opened by the Thomas Estate No. 1 Parr, northwest of San Diego in Survey 26. That area long was the scene of wildcatting operations by the late E. R. Thomas. Sand was cored at 4,660-72 feet and on a drill-stem test made several days ago a recovery of 120 feet of oil resulted at 720 pounds working pressure in 15 minutes. Casing was set on bottom and the test was brought in making 64½ bbls. a day of distillate with considerable gas on a half-inch choke. Tubing pressure was 975 pounds. The new field is being called by some the Thomas-Lockhart field, for the two operators who hold acreage in the vicinity. Thomas Estate and Lockhart have staked location for No. 2 Parr, north of the discovery well, in the SW quarter of section 26.

In Webb County the new field opened recently by O. W. Killam No. 1 Laurel Brothers, 1½ miles north of Oilton, has been named the Killam field for the veteran oil man of the Laredo district. Already two tests are drilling in the immediate area of the discovery. The O. W. Killam No. 1 Garcia, in Survey 786, which borders Survey 333 on the southeast, is already on the sand at 2,010-24 feet with a show of oil, and C. H. Bailey is spudding on No. 1 Garcia in Survey 333.

Show of oil was reported in another Webb County test. The Carson & Vernor No. 1 Webster in the Carolina Texas area reported sand at 3,040-60 feet which was being tested.

Duval County developments also included the completion on pump of A. J. Brinkoeter No. 1 Garcia, in Survey 212, southwest of Seven Sisters. The test is being offset by another one by the same operator. A number of dry holes separate the well from the Seven Sisters field.

Twelve miles southwest of San Diego, the Grimm No. 1 Mew was abandoned. The wildcat cored a sand at 4,386-93 feet recently, which showed oil, but only salt water was recovered. It was carried to a total depth of 5,005 feet.

Phillips No. 1 Schmidt Stars

San Patricio, Aransas and Nueces counties shared the attention of Lower Gulf Coastal operators during the week. The Phillips Petroleum Co. No. 1 Schmidt in the first named county starred in the week's developments. The wildcat, in section 81 of the Paul Subdivision, between Gregory and Taft, was last reported flowing 11 bbls. an hour of fluid while cleaning in. Of the fluid, 70 per cent was estimated to be 34-gravity oil, and the remainder washwater. The test was for several days a tight one, with no information available from operators.

Bottomed at 7,005 feet, the wildcat was plugged back to 5,370 feet, where casing was perforated at 5,336-38 feet. While cleaning, it made gas and fluid through a half-inch choke on the casing and a three-sixteenths inch choke on the tubing, at a pressure of 2,100 pounds. On a drill-stem test at 5,316-39 feet the test had previously shown a recovery of 100 feet of oily mud. The new pool has been named Midway, for a railroad station nearby.

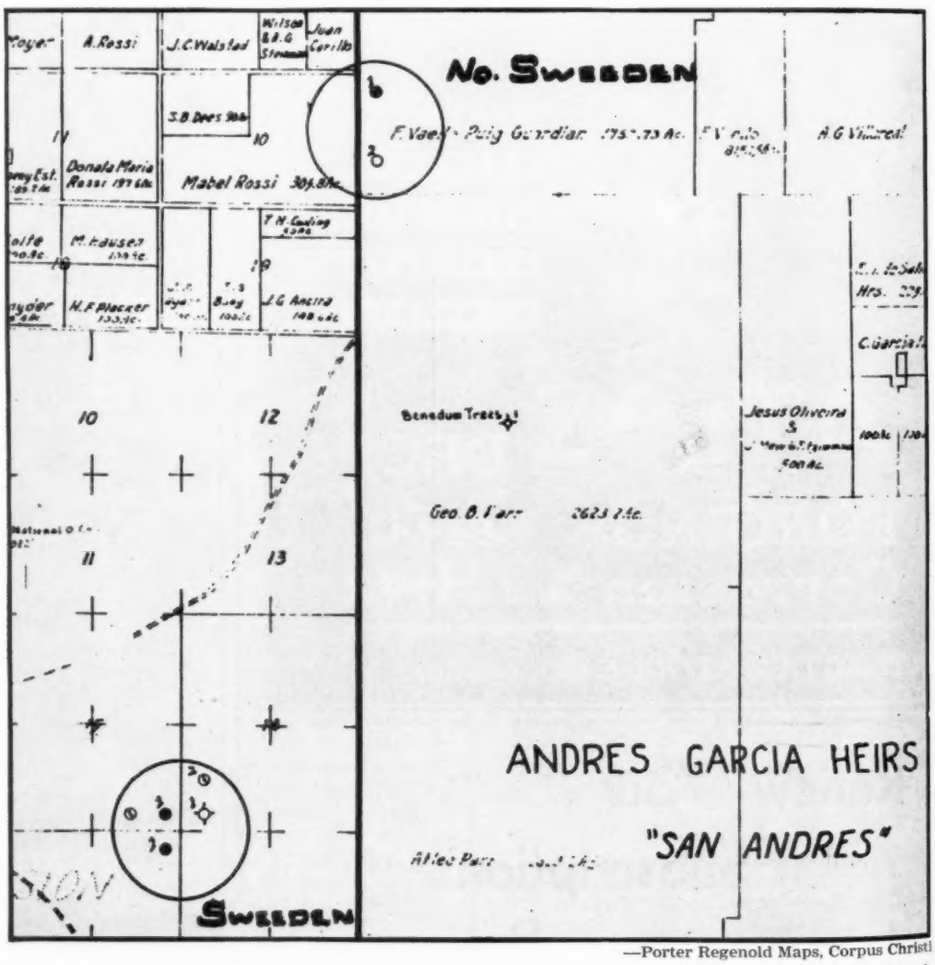
The second Barnsdall test in the Lamar Prospect of Aransas County has reached critical depth. The company's No. 2 Kate Edwards was carried to a total depth of 7,467 feet, and a drill-stem test was made at 7,447-67 feet. When the tool was opened, the well immediately blew out the 1,000-foot water-cushion in the testing tool. The tool was immediately closed, and a recovery of 3 gallons of distillate was reported. The tool was open approximately 3 minutes.

After the hole had been cored 20 feet deeper, a second test was made at 7,447-87 feet with the same results reported. While reaming for a third test, with the hole bottomed at 7,519 feet, the drill stem twisted off, and the resulting fishing job will retard further testing. This wildcat has been followed with interest, since it offsets the Barnsdall No. 1 Edwards, which blew out several months ago, cratering and making a small amount of oil through the drill stem before flowing salt water and going dead.

Collins Well Abandoned

In the same county the Collins No. 1 Wheeler, a wildcat drilling 4 miles north of the McCampbell field, was abandoned at a total depth of 7,020 feet without shows. To the west in San Patricio County, Wheelock & Collins No. 1 Whillis, a wildcat 3 miles north of Gregory and northeast of the Phillips discovery, cored shaly sands and sands with oil odor at 5,343-50 feet, and then went into salt water sand. The test is coring ahead. Another wildcat in the same county, Conroe Drilling Co. No. 1 McKamey, 3 miles east of Gregory, tested salt

(Continued on Page 97)



—Porter Regenold Maps, Corpus Christi

New producing area opened in southeastern Duval County has been named the North Sweden field

North Louisiana, Arkansas

FIVE RODESSA DEEP TESTS ARE CENTERS OF INTEREST

By MITCHELL TUCKER

SHREVEPORT, La., Apr. 26.—An important extension to the Lisbon field of Claiborne Parish, Louisiana, two new locations offsetting the discovery well at Schuler. Union County, Arkansas, a probable field opener in Panola County, Texas, and 14 completions in the Rodessa field, comprised the major developments of the Arkansas-Louisiana-Texas area in the past week.

Rodessa Field

Five deep tests of the Rodessa structure are being made, three on the Louisiana side and two on the Texas side, and all are being closely watched.

The showing of oil at United Gas Public Service Co. No. 5 Young, NW section 27-23-16, reported from 6,510-24 feet in the Pettit lime, did not prove commercial on drill stem test made at that depth. Operators continue coring below 6,530 feet.

The Marr & Perkins No. 5 Hunter, a deep test in section 13-23-16, has reached a total depth of 7,207 feet. After topping the Travis Peak at 6,673 feet, attractive showings were reported. Above this point in the Oolitic lime zone, probably the Pettit lime, from 6,545-55 feet 16 per cent porous lime was cored, carrying evidence of saturation. At the present total depth operators made Schlumberger survey and elected to run casing and test. Five-inch casing has been set at 6,510 feet, and a test will be made next week.

South of the Rodessa field proper, in what generally is referred to as the gas area, R. W. Norton No. 1 Payne, SE SE section 27-23-16, is coring below 9,375 feet. Proposed depth is 10,000 feet, and operators have announced intention to drill to this point before testing the several attractive showings obtained thus far.

In the Cass County, Texas, side of the field, United Production Co. No. 1 J. W. Land is serving as deep test in the R. Potter Survey. At a total depth of 6,786 feet drill stem test was being made of porous member cored just above this point.

In the Jacob Carsser Survey, Magnolia Petroleum Co. missed the saturated pay in the Young oil sand at its No. 1 Harper & Thatcher, and have elected to carry the well down for a deep test at this point. Coring continues below 6,550 feet.

Rodessa Production

Daily average production and number of wells, by companies, for the week ending April 20, follows:

	No. wells	Dly. avg. prod. (bbls.)
Standard Oil of Louisiana	60	8,331
Arkansas-Louisiana Gas Co.	28	1,016
American Liberty Oil Co.	25	3,324
Magnolia Petroleum Co.	105	21,022
R. W. Norton	11	2,920
Ohio Oil Co.	13	2,239
Phillips Petroleum Co.	43	6,249
Tide Water Oil Co.	16	767
Texas Co.	19	3,858
United Gas P. S. Co.	192	27,479
Others	106	8,334
Total	618	86,035

Rodessa Operators Committee

Now that proration matters for the Rodessa field are well organized and upon a conservative basis, the cooperative engineering subcommittee of the Rodessa operators committee is directing its attention to the study of salt water encroachment and means for its control.

RODESSA COMPLETIONS LOUISIANA

Magnolia Petroleum Co. No. 11-A Caddo Levy Board, SW section 21-23-16, flowed 20 bbls. hourly on initial test through one-quarter inch tubing choke, total depth 5,980 feet.

In the North Rodessa area Standard of Louisiana No. 1 W. M. Terry, SE NE SW section 9-23-16, flowed 694 bbls. in 24 hours initially through 28/64-inch tubing choke from saturated Mitchell sand 5,920-36 feet, total depth 5,975 feet.

Cass County, Texas

Magnolia Petroleum Co. No. 3 Allday Estate, P. Evans Survey, flowed 554 bbls. in 24 hours, one-quarter inch choke, total depth 5,968 feet.

Magnolia Petroleum Co. No. 9 L. Haywood, P. Evans Survey, flowed 20 bbls. hourly through one-quarter inch tubing choke, casing pressure 1,200 pounds, total depth 5,970 feet.

Magnolia Petroleum Co. No. 10 L. Haywood, P. Evans Survey, flowed 15 bbls. an hour through five-thirty-seconds inch tubing choke, casing pressure 1,500 pounds, total depth 5,975 feet.

Magnolia Petroleum Co. No. 12 L. Haywood, P. Evans Survey, flowed 20 bbls. hourly through one-quarter inch tubing choke, total depth 5,986 feet.

Magnolia Petroleum Co. No. 8 Lewis & Wicks, Alex Archer Survey, flowed 531 bbls. daily on initial test, tubing pressure 500 pounds, casing pressure 200 pounds, total depth 6,055 feet.

Ohio Oil Co. No. 17 R. P. Willis, S.F.I.W. Survey No. 1,263, flowed 299 bbls. daily through one-quarter inch tubing choke, total depth 5,986 feet.

Texas Co. No. 2 N. A. Rambo, School Land Survey, flowed 214 bbls. in 17 hours through one-quarter inch tubing choke, casing pressure 600 pounds, total depth 6,011 feet.

United Production Co. No. 1 Allday, P. Evans Survey, flowed 22 bbls. hourly from saturated Mitchell sand, 5,896-5,906 feet, through 20/64-inch tubing choke, casing pressure 220 pounds, total depth 5,915 feet.

United Production Co. No. 2 Bivens Unit, James Davenport Survey, tested salt water and only shows of gas at a total depth of 6,021 feet, after drilling all the Lower Glen Rose section, and has been abandoned at this depth.

United Production Co. No. 1 Terry Unit, R. Potter Survey, cut the fault at 3,800 feet and was completed as a gas well from the Gloyd horizon, gauging 7,000,000 feet, rock pressure 2,285 pounds, total depth 5,660 feet.

Marion County, Texas

Arkansas-Louisiana Gas Co. No. 1 W. S. Ford, Charles Grayson Survey, 7-mile extension well at Lodi, was completed at total depth of 6,181 feet, flowing about 50 bbls. daily through one-half inch tubing choke, with 500,000 feet of gas, 135 pounds tubing pressure, 300 pounds casing pressure.

Holcomb & Thomason, Flesh and Hootkins No. 1 Lizzie Henderson, R. Bennington Survey, discovery well at Jefferson and 12 miles southwest of Rodessa production, was completed last week, flowing 87 bbls. in 24 hours through upper and lower one-sixteenth inch packer chokes, total depth 5,996 feet.

Arkansas-Louisiana Gas Co. No. 1 Laura McIntosh, William Edmiston Survey, which failed to make an oil well in the Gloyd sand but did indicate 700,000 feet of gas daily with some distillate, was deepened for a test of the Dees-Young oil sand. The Dees was topped at 6,098 feet and salt water only was swabbed at this point. Drilling continued at 6,157 feet.

Bossier Parish—Sligo Field

The sixth oil producer for the Sligo oil field situated on the southwestern flank of the old shallow gas field, United Gas No. 1-I Skannal, SW SW section 25-17-12, flowed 345 bbls. in 24 hours initially through one-quarter inch tubing choke, tubing pressure 600 pounds, casing pressure 250 pounds, after 1,000-gallon acid charge, total depth 5,175 feet.

In the gas producing area of Sligo gas field Arkansas-Louisiana Gas Co. completed its No. 1 Tom Wilson, SW section 8-17-11, gauging 26,717,800 feet at 1,800 pounds rock pressure, total depth 4,274 feet.

United Gas No. 1-A Webb, C section 23-17-12, proved to be too high on structure to produce oil, and has been completed as a 20,000,000-foot gas well in the Pettit lime zone, total depth 5,172 feet.

Caddo Parish

Dr. C. C. Crews No. 3 Penter, SW NW SW section 11-20-15, in the old Caddo field, pumped 175 bbls. of oil initially last week, and was completed at total depth of 2,202 feet.

Lisbon Field—Claiborne Parish

A three-quarters mile eastward extension of the active Lisbon field was assured this week as the De-Arman-McMillan No. 1-A Maggie Patton, C S half NE SW section 31-24-4, topped the saturated Pettit lime at 5,272 feet and drilled 21 feet of saturated pay to total depth of 5,293 feet. The significant point regarding this well is that it checks about 17 feet higher than the discovery well, and carries 8 feet more saturated sand, pointing to eastward and northward trend of development. Operators are setting casing preparatory to testing.

There are now 20 wells active at Lisbon, nine of which should be completed within the next week. Conservative estimates of recovery there now places reserves at about 6,000 bbls. an acre. At the Louisiana Department of Conservation hearing in New Orleans both landowner and operator asked for a 20-acre spacing rule for that area, and it is expected that such an order will be issued soon.

Lisbon Crude Characteristics

Physical properties of Lisbon crude oil test as follows: Gravity, 34.5; viscosity at 50° F., 139; viscosity at 100° F., 63; b.s. and w., 0.2; sulfur, 1.1 per cent; color, black; overpoint, 120. Fractional analysis as follows: Gasoline, 23.5 per cent; kerosene, 14 per cent; gas oil, 46.5 per cent; residue, 14.5 per cent; loss, 1.5 per cent.

A yield of 20 to 30 per cent of high quality paraffin-base lubricating oil can be produced from this paraffin-intermediate base crude. The straightrun gasoline requires no chemical treatment to meet corrosion, doctor and sulfur specifications. The octane number of gasoline is indicated on tests to be low, and the tetraethyl lead requirement is high on the 400 endpoint gasoline.

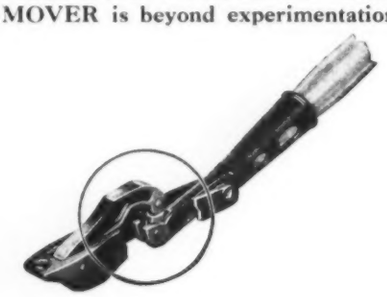
Sugar Creek—Claiborne Parish

The discovery oil well at Sugar Creek on the northern flank of the old Sugar Creek gas field, about 8 miles southwest of the Lisbon oil field, was completed last week. Sugar Creek Syndicate No. 1 W. Brown, section 1-19-6, flowed 50 bbls. of 29.1 gravity oil daily from a sand member in the Travis Peak, total depth 5,984 feet. The same operator's No. 1 W. M. Dobbins, old gas well in section 12-19-6, being deepened, is now drilling in sand at 5,747 feet.

LaSalle Parish

Increased activity is seen for the Urania field of LaSalle Parish, as three good completions were made in the shallow sand last week. Air Lift Oil Co. No. 10 Urania, section 18-10-2e, pumped 75 bbls. daily from total depth of 1,515 feet. The No. 11 Urania, same section, pumped 30 bbls. daily, total depth 1,517 feet.

THE FAMOUS
"ATLAS"
MANUAL FREIGHT CAR
MOVER is beyond experimentation.



In comparative tests made in the presence of impartial witnesses it has proven itself superior to other movers in power, speed and efficiency for over thirty years.

Specify "ATLAS" when ordering.
Sold by most responsible distributors.

ATLAS
TRADE MARK
GIVE ME A PLACE TO STAND AND WE WILL MOVE THE EARTH

Trade Mark registered U. S. Patent Office

APPLETON-ATLAS CAR MOVER CORPORATION
2947 No. 30th St. Milwaukee, Wis.
(Formerly Appleton Car Mover Co., Appleton, Wis.)

Specify
"X-L"
"ALL THRED"
THREAD PROTECTORS

Here is your best protection against damaged threads to line pipe and tubing while in transit. Indorsed by the country's leading operators. Demand XL "All-Thred" Thread Protectors in your next order of pipe. Write factory at Wheeling or consult your oil field distributor. No obligation.

WHEELING MACHINE PRODUCTS COMPANY
WHEELING, W.VA.

Placid Oil Co. No. 4 Wimberry, same section, pumped 15 bbls. daily, total depth 1,519 feet. Four other wells are drilling in this immediate area.

Sabine Parish

Kirk-Green-Way, Inc. (Deep Rock Oil Co.) No. 1 Whitney Corp., deep test of the Converse oil field, topped the anhydrite at 5,030 feet, cemented the 9⅝-inch casing at 5,176 feet, and is preparing to increase mud weight and drill the high-pressure gas and distillate horizon indicated by a nearby test which was junked for mechanical reasons.

Webster Parish

The majority of operators in the Cotton Valley field asked for a 160-acre spacing order at the Louisiana Department of Conservation hearing last Monday in New Orleans. This was opposed by the minority operators, and by the land, lease and royalty owners. The latter group held a meeting in Minden, La., following the hearing and appointed a committee to employ a competent geologist or engineer to represent them at the next commission hearing, when the subject again will be discussed.

United Gas No. 2 Davis, recompletion in the Cotton Valley field, NW section 23-21-10, gauged 323 bbls. of distillate in 22 hours through three-eighths inch tubing choke, casing pressure 2,400 pounds, tubing pressure 2,350 pounds, with 4,700,000 feet of gas, total depth 8,305 feet, plugged back from 8,551 feet.

In the Sibley field of southern Webster Parish, Standard Oil of Louisiana has been reperforating and testing its No. 1 Fudicker, NW section 2-17-9, a mile southwest extension of this gas-distillate field. After reperforating 7-inch casing from 5,422-5,520 feet and from 5,655-80 feet, the well tested 45 bbls. of distillate and 7,500,000 feet of gas in 24 hours, total depth 7,202 feet.

Estimated Daily Production

Estimated daily gross production all companies week ending April 23:

NORTH LOUISIANA

	Bbls.
Bellevue	780
Caddo light	3,920
Caddo heavy	2,305
Converse	905
Cotton Valley heavy	250
Cotton Valley light	*2,100
DeSoto and Red River	1,420
Elm Grove	370
Haynesville	3,470
Holly	135
Homer	2,665
Lisbon	1,400
Pleasant Hill	130
Rodessa	48,330
Sarepta-Carterville	400
Sligo	365
Urania	2,795
Zwolle	710
Total	72,450

SOUTH ARKANSAS

Champagnolle	1,600
El Dorado	2,000
Lisbon	285
Miller County	540
Nevada	815
Smackover light	2,105
Smackover heavy	16,790
Stephens	550
Troy	1,425
Urbana	1,350
Total	27,460

Texas side of Rodessa field—37,500 bbls. daily.

*1,595 bbls. is distillate.

ARKANSAS

Lafayette County

Carl B. King Drilling Co. No. 1 Eben H. Woolcott, NE section 36-19-26, about 10 miles northeast of the Rodessa field and having the producing horizons of that field as its objective, drilled the massive anhydrite from 5,440 to 5,796 feet, topped the Hill sand at 5,804 feet, and logged no evidence of oil or gas in the Lower Glen Rose beds. Drilling now continues in black shale at 5,909 feet.

Union County

The discovery well at Schuler, section 18-18-17, is now offset by one drilling well, and another rigging up. During the last week the discovery well, Lion Oil Refining Co. No. 1 Morgan, section 18-18-17, tested 300 bbls. of oil and 4,000,000 feet of gas daily through 22/64-inch tubing choke, without a trace of water. The oil and gas are being run through Lion's 4-inch line to its El Dorado refinery about 8 miles to the north.

Dietrich and others No. 1 Aaronson, NE SW NE section 3-18-16, was found to be dry in sand 2,194-2,200 feet, and has been abandoned at a total depth of 2,286 feet.

EAST TEXAS (Border Counties)

Harrison County

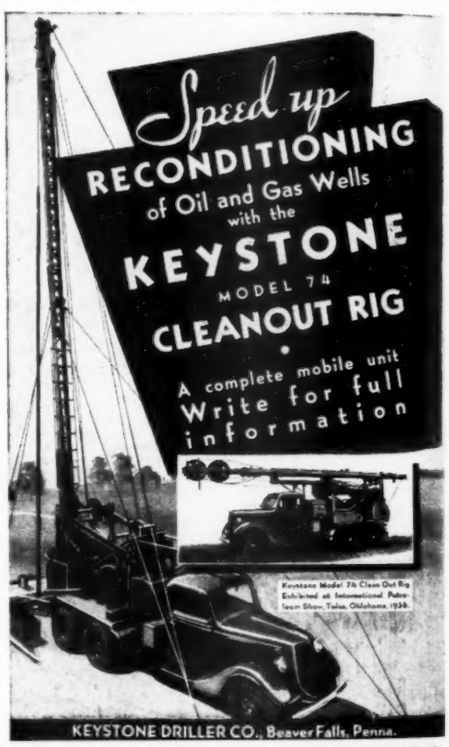
L. L. Rector of Fort Worth is reported to be preparing for a 3,000-foot or deeper operation in the Waskom oil and gas field of southeast Harrison County, near the Louisiana line. Production at present is coming from the Tokio series at about 2,100 feet.

Cass County

Interest is being evidenced in J. G. Puterbaugh and others No. 1 J. J. Doorley, Calloway Davis Survey, about 15 miles north of the Rodessa field, as drilling continues below 4,000 feet. This test is reported to be checking high regionally, and is conforming closely to the shooting picture obtained during seismic mapping.

Shelby County

The H. A. Stebbinger and others No. 2 Pickering Lumber Co., A. Hanson Survey of northern Shelby County, gives all indications of a field opener after drilling a total of 28 feet of saturated sand, total depth of 5,068 feet. Operators had previously set 7-inch casing to test gas and distillate showings around 4,890 feet, but decided to core deeper before testing, but the lower saturation was discovered. It is now



KEYSTONE DRILLER CO., Beaver Falls, Penna.

NATIONAL AIROIL BURNER COMPANY
ESTABLISHED 1912 INCORPORATED 1917
Manufacturers
Installation
Engineers
Sales - Service
Industrial Oil Burners Gas Burners and Furnace Equipment
NATIONAL AIROIL BURNER
NAIROIL Automatic Oil Burners for HOMES APARTMENT HOUSES CHURCHES, STORES FACTORY BUILDINGS OFFICE BUILDINGS
Offices and Salesrooms
1325-27 Girard Avenue
Factory
L St. & Sedgley Avenue
Philadelphia, Pa.

planned to run 5-inch pipe for a careful test of the lower oil showings.

This probable oil discoverer is one-quarter of a mile south of the operator's No. 1 Pickering, completed as a gas and distillate producer several months ago at a total depth of 5,029 feet.

MISSISSIPPI

Eight geophysical crews are reported to be active in Mississippi. The California Co.'s crew is working in Township 4n-1e, Rankin County. The Southern Natural Gas Co.'s unit is mapping about 4 miles south of Brownsville, Hinds County. Sun Oil Co. has moved in a gravimeter crew to check its salt dome discovery in Lamar County. Phillips Petroleum has a crew in northwest George County and southern Perry County. The Sun has another unit near Hattiesburg. Gulf Refining Co. is sponsoring two gravimeter crews, one at Columbia and the other at Hattiesburg. United Gas Public Service Co. seismograph outfit is still working out of Mobile, Ala.

Hinds County

The state of Mississippi's deep test for oil in the old Jackson gas field, No. 2 fee, section 25-6n-1e, has been plugged back from a total depth of 5,529 feet, and it is planned to test upper sands logged, and if nonproductive, complete as a gas well in the Jackson gas chalk. Gun perforating from 2,842-55 feet opposite one sand showed salt water only.

East Texas Fields

(Continued from Page 78)

27 fee, 3,545-65 feet, 26 bbls. in 15 minutes. Reserve and Magnolia Petroleum Co. No. 6 Christian, 3,604-35 feet, 60 bbls. per hour. Standard Oil of Kansas No. 3 Fuller, 3,637-63 feet, 33 bbls. per hour. Stanolind Oil & Gas Co. No. 11-A Smith, 3,552-81 feet, 50 bbls. per hour; No. 11-C Smith, 3,537-60 feet, 44 bbls. per hour.

Tide Water Associated No 43 Lake Devernia, 3,485-3,525 feet, 13 bbls. in 10 minutes. Gulf Oil Corp. No. 32 Culver, 3,531-46 feet, 71 bbls. per hour. Clyde Hall No. 1 Johnston, 3,631-40 feet, 47 bbls. in 45 minutes. Magnolia Petroleum Co. No. 36 Redford, 3,654-55 feet, 64 bbls. per hour. R. F. Morgan No. 3 Benson, 3,656-57 feet, 30 bbls. in 30 minutes. Mullendore & Berry No. 5 Elder, 3,572-95 feet, 20 bbls. in 15 minutes. A. B. Ryan No. 2 Spear, 3,553-70 feet, 10 bbls. in 10 minutes. Shell Petroleum Corp. No. 38 Elder, 3,546-83 feet, 37 bbls. in 30 minutes; No. 40 Elder, 3,538-69 feet, 30 bbls. in 30 minutes. Sun Oil Co. No. 13 Elder, 3,533-53 feet, 45 bbls. per hour. Texas Co. No. 11 Davis, 3,587-3,603 feet, 32 bbls. in 25 minutes. Vierson and Kingwood, 3,524-42 feet, 20 bbls. in 20 minutes.

Rusk County

Harrison & Abercrombie No. 4-B Brightwell, 3,627-62 feet, 50 bbls. in 30 minutes. Brown and Wilson No. 4 Terrill, 3,666-67 feet, 22 bbls. in 45 minutes. Everts Drilling Co. No. 9 Crews, 3,824-25 feet, 20 bbls. per hour. General American Oil Co. No. 21-B Williams, 3,589-90 feet, 15 bbls. in 35 minutes. Gant and others No. 14 Hale, 3,532-44 feet, 15 bbls. per hour. Gulf Oil Corp. No. 13 Thrash, 3,743-62 feet, 45 bbls. per hour. Humble Oil & Refining Co. No. 6 Bagwell, 3,699-3,700 feet, 70 bbls. per hour; No. 19-A Silvey, 3,680-81 feet, 75 bbls. per hour. C. L. McMahon No. 5 Finney, 3,615-70 feet, 35 bbls. in 40 minutes. Magnolia Petroleum Co. No. 8 Kelley, 3,605-55 feet, 20 bbls. in 90 minutes on pump. Ohio Oil Co. No. 9 Price, 3,601-74 feet, 16 bbls. in 15 minutes. Sun Oil Co. No. 8-A Schuler, 3,625-47 feet, 30 bbls. per hour. Tide Water Associated No. 13 Pool, 3,712-53 feet, 17 bbls. in 15 minutes. J. H. Woods No. 2-A Dickerson, 3,573-90 feet, 20 bbls. in four hours.

Smith County

Wynne Drilling Co. No. 2 Green, 3,826-28 feet, 65 bbls. in 45 minutes. Maryland Corp. No. 5 Cross, 3,692 feet, 23 bbls. in 30 minutes. McMurray Oil Co. No. 27 Turner, 3,820-21 feet, 40 bbls. per hour. Wheelis Oil Corp. No. 16 Patterson, 3,738-48 feet, 20 bbls. in one and one-half hours on air lift, 20 per cent water.

Upshur County

Atlantic Refining Co. No. 20 Moyers, 3,586-3,700 feet, 102 bbls. per hour. Barnett Petroleum Corp. No. 5-A Tuttle, 3,815-18 feet, 20 bbls. per hour. Day & Co. No. 4-B Victory, 3,635-50 feet, 20 bbls. in 40 minutes. Dean Brothers No. 8 Victory, 3,584-86 feet, 100 bbls. in four hours. Magnolia Petroleum Co. No. 5 Fenton, 3,788-93 feet, 60 bbls. per hour. Margay Oil Co. No. 13 Victory, 3,594-3,606 feet, 27 bbls. in 30 minutes. P. H. Pewitt No. 4 Williford, 3,684-85 feet, 100 bbls. per day. Sun Oil Co. No. 20 O'Byrne, 3,652-73 feet, 12 bbls. per hour on swab. Texas Co. No. 8 Stinchcomb, 3,783-84 feet, 20 bbls. per hour.

MISCELLANEOUS COMPLETIONS

Anderson County

Byrd-Frost, Inc. No. 5 I.&G.N.R.R., 5,328 feet, estimated 40,000,000 feet gas. Gaskill Oil Corp. No. 1 Keeling, 5,362 feet, estimated 40,000,000 feet gas. Tide Water Associated and others No. 1 Williams, 5,342 feet, 121 bbls. in 24 hours through one-eighth inch choke.

Fannin County

Moore and Scarborough No. 1 L. C. Fuller, dry and abandoned 3,502 feet, elevation 613 feet, 4 miles southeast of Bonham.

Franklin County

Byrd-Frost, Inc. No. 3 Phillips, 4,315 feet, 8 bbls. per hour on pump.

Hopkins County

W. L. Goldston No. 1 Smith, 4,458-4,510 feet, 528 bbls. in 24 hours through one-quarter inch choke. F. D. Jones and others No. 5 Pierce, 4,470-4,520 feet, 601 bbls. in 24 hours through one-quarter inch choke.

Houston County

American Liberty Oil Co. No. 1 J. A. Bean, 6,043 feet, estimated 10,000,000 feet gas through one-half inch choke.

Titus County

Adams and Lyle No. 9 P. Davis, 4,336 feet, 414 bbls. in 24 hours on pump. Byrd-Frost, Inc. No. 4 Belcher, 4,265 feet, 334 bbls. in 24 hours on pump; No. 2 Harper, 4,182-4,250 feet, 12 bbls. per hour on pump. G. M. W. Oil Co. No. 1-D Edward, 4,307 feet, 69 bbls. in 12 hours on pump; No. 1-38 Talco, 4,326 feet, 10 bbls. per hour on pump. W. B. Hinton No. 1 Coker, 4,349 feet, 102 bbls. in four hours on pump. Humble Oil & Refining Co. No. 34 King, 4,316 feet, 275 bbls. in 24 hours on pump; No. 1 Wilson, 4,308 feet, 143 bbls. in 24 hours. on pump. Magnolia Petroleum Co. No. 6 Mainard, 4,290 feet, 315 bbls. in 24 hours on pump. Merritt Drilling Co. No. 1 Talco, 4,295 feet, 10 bbls. per hour on pump. J. S. Rushing No. 5 Mitchner, 4,386 feet, 547 bbls. in 24 hours on pump. Tide Water Associated No. 6 Carr, 4,330 feet, 9 bbls. per hour. A. Yost No. 1 W. L. Cain, 4,306 feet, 8 bbls. per hour on pump.

Van Zandt County

Overton Refining Co. No. 6 G. W. Carter, 2,907 feet, 86 bbls. in six hours.

Wood County

B. F. Phillips No. 1 L. E. Pritchard, 4 miles south of Winnsboro, dry and abandoned 5,164 feet. Robertson and others No. 1 E. A. Russell, dry and abandoned 600 feet, 5 miles south of Alba, elevation 542 feet.

Southwest Texas Fields

(Continued from Page 94)

water in a sand at 5,370-74 feet, which has shown prospects of oil, and is also drilling ahead.

Nueces County activity resulted in few developments of importance. The southwestern corner of that county came into prominence as the Camp Producing Co. No. 1 Wardner set casing at 6,111 feet. The test, in the old Stratton gas area, encountered several sands with shows of oil and gas between 4,706 and 6,104 feet.

In Brooks County the Standard of Texas No. 1 Mestina, a wildcat about 6 miles north of the Alta Mesa field, recovered 165 feet of fluid including some oil at 2,395-2,405 feet, together with a good blow of gas. Upon drilling ahead, however, the wildcat tested sulfur water on a drill-stem test at 2,415-22 feet and is being drilled deeper. The same operators are on the field sand in two tests in the Alta Mesa field to the south. The wildcat is on the company lease No. 2, in Tract 11, of the Salinas Survey.

RYERSON STEEL

IMMEDIATE STOCK SHIPMENT

Bars, structurals, rails, sheets, plates, special alloy and tool steels, stainless steel (Allegheny metal) sheets, bars, etc., shafting, welding rod, babbitt, boiler tubes and fittings, wire, reinforcing bars, pipe, copper, brass, turnbuckles, metal working tools, etc.

Write for the Ryerson Stock List.

JOSEPH T. RYERSON & SON, INC. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Cleveland, Detroit, Buffalo, Boston, Philadelphia, Jersey City. Offices at: Tulsa, Kansas City, Minneapolis.

LUDLOW VALVES STAND UP

Valves must be strong and dependable to withstand the exacting demands of drilling, pipe line and refining operations.

All Ludlow valves are built to last. The fine materials used in their construction—and the original Ludlow principle of wedge closure means years of economical, rugged service. Write for complete catalog.

THE LUDLOW VALVE MFG. CO.
TROY, NEW YORK

Straighten Out... those CROOKED Holes with SPERRY - SUN Well-Surveying Instruments

Write for literature.

SPERRY-SUN WELL SURVEYING CO.
1608 Walnut St. Philadelphia, Pa.
Tulsa, Okla., 425 Petroleum Building
Houston, Texas, 3118 Blodgett Avenue
Long Beach, Calif., 549 East Bixby Road, (3800 Block—Atlantic Ave.)

California Fields

(Continued from Page 88)

309 feet of 2¾-inch liner which includes 160 feet of 88-mesh has been landed in the bottom. Gas has been injected to stimulate a flow without success and a thorough cleanout job which includes washing of the perforations is in progress. This wildcat has shown enough encouragement to justify the expectation that Wasco will become a new oil field with additional drilling. Seaboard Oil Co. joint test with another operator, No. 1-C Kern County Land in section 26-27-24, about 5 miles southeast of Continental's Wasco wildcat, passed the 6,800-foot level a few days ago.

Rosecrans

Deep zone exploitation has finally got under way in the Rosecrans field of Los Angeles Basin where Barnsdall Oil Co. proved existence of a new deep zone by completing No. 10 O'Dea flowing 1,500 bbls. of 35.9 gravity and 2,150,000 feet of gas from 7,534 feet several weeks ago. Barnsdall recently took No. 12 O'Dea off production in the upper zone and is deepening it to the new O'Dea zone. The company is building rig for No. 16 Rosecrans, scheduled for early work. Union Oil Co., which, with Barnsdall, controls the cream the of the productive acreage, has already spudded in No. 16 Rosecrans and Universal Consolidated Oil Co. has started rig construction for No. 1 Trust. The Trust lease has had an interesting history from the early life of the Rosecrans field. Union Oil Co. took this property first and after drilling a couple of wells quitclaimed it because of edgewater and small production. The property passed to Barnsdall Oil Co. which drilled two deep wells and then to Republic Petroleum Co. which drilled one deep well. Republic Petroleum recently quitclaimed all but 2½ acres surrounding its well and Universal Consolidated Oil Co. leased it. The wells of Barnsdall and Republic Petroleum Co. are still producing a small amount of high gravity crude oil per day.

Santa Maria

Union Oil Co. has just landed a string of 8⅝-inch casing in No. 1 O'Donnell a wildcat on the Paderewsky Ranch west of the Santa Maria Valley field and southwest of the town of Santa Maria preparatory to making an early production test. No. 1 O'Donnell is expected to be completed on the beam but may ultimately lead to discovery of a new field similar to Santa Maria Valley where large flowing wells have supplanted the early pumpers. This well logged the top of the Monterey at 3,829 feet and hit the top of the basement, Franciscan, at 4,010 feet. The well was carried to 4,147 feet after topping the Franciscan to be definitely certain the bottom of the geologic column had been reached. The logging of oil indications in No. 1 O'Donnell has resulted in an aggressive leasing campaign with Union and Pacific Western Oil Co. paying $100 per acre bonus. Pacific Western leased 40 acres from Frank J. McCoy southeast of Union's O'Donnell lease and Union has leased 80 acres from McCoy & Cooney offsetting Western Oil Co. on the south. Union also has taken a substantial lease from Frank Mallory just south of the McCoy-Cooney holdings. Union's next completion should be No. 2 Vincent in section 30-10-33 as drilling operations have been completed at 3,516 feet. R. R. Bush Oil Co. and Hancock Oil Co. jointly developing several leases have spudded in No. 1 Bradley in section 26-10-34 and have a new rig for No. 2 Brown in section 25-10-34.

Rincon

Chanslor Canfield Midway Oil Co. focused attention on the Rincon field of Ventura County this week by finishing the largest well in several years. No. 13-B Hobson was brought in flowing 1,906 bbls. of 30.7 gravity and 1,480,000 feet of gas from 4,400 feet. The hole was finished with a 9-inch water string landed at 4,084 feet and a 6⅝-inch perforated liner. The gas from this well contains a little more than 1.5 gallons of natural gasoline to each 1,000 feet of gas. The Rincon field is at the extreme western end of the Ventura anticline where it plunges into the Pacific Ocean and while early wells showed satisfactory initials the field never became of major importance.

Ventura Avenue

Shell Oil Co. has recompleted No. 89 Taylor in the Ventura Avenue field after cementing off a source of water at 7,833-8,000 feet and returned it to production flowing 3,260 bbls. of 30.9 gravity and 1,985,000 feet gas. It was given a production test in March but tested wet and necessitated corrective work. No. 89 Taylor is bottomed at 8,090 feet and was completed flowing through two 1-inch beans under a pressure of 140 pounds on the tubing and 950 pounds on the casing. Shell has taken No. 35 Gosnell off production and will carry it to the deep 57 zone at approximately 9,300 feet. Associated Oil Co. is running five strings of tools and is building rigs for two wells, Nos. 61 and 62 on the Lloyd lease. In the South Mountain field of Ventura County Calco Petroleum Co. has completed No. 4 Driggs pumping 191 bbls. of 22.2 gravity from 4,105 feet. In the Capitan field of Santa Barbara County, Shell Oil Co. has completed No. 1-20 Covarrubias flowing 185 bbls. of 42.9 gravity from 2,717 feet.

GULF COAST WATER SHIPMENTS, JANUARY, 1937

Sabine District

Company and Terminal—	Crude—Coastwise	Crude—Export	Refined—Coastwise	Refined—Export	Total
Atlantic Pipe Line Co.:					
Atreco	1,576,617	.....	.....	.....	1,576,617
Burton Terminal:					
Lockport	159,816	.....	.....	.....	159,816
Continental Oil Co.:					
West Lake	159,619	.....	.....	.....	159,619
Gulf Oil Corp.:					
Port Arthur	481,402	.....	3,381,403	.....	3,862,805
Magnolia Pet. Co.:					
Beaumont	*1,728,219	.....	*1,932,291	.....	3,660,510
Lockport	72,213	.....	.....	.....	72,213
Pure Oil Co.:					
Smith's Bluff	220,728	.....	835,712	.....	1,056,440
Shell Pet. Corp.:					
Haymark	89,553	187,371	.....	.....	276,924
Stanolind Crude Pur. Co.:					
Beaumont	100,358	.....	.....	.....	100,358
Sun Oil Co.:					
Beaumont	1,924,884	141,531	.....	.....	2,066,415
Texas Co.:					
Port Arthur	1,495,153	378,242	2,509,688	905,322	5,287,805
Union Sulphur Co.:					
Lockport	388,684	.....	.....	.....	388,684
Total Sabine district ...	8,397,246	707,144	8,658,494	905,322	18,668,206

*Includes export shipments.

Corpus Christi District

Atlantic Pipe Line Co.:					
Harbor Island	599,093	123,140	.....	.....	722,233
General American Tank Storage & Terminal Co.:					
Corpus Christi	200,065	389,300	338,760	4,729	932,854
Humble Pipe Line Co.:					
Harbor Island	2,506,711	.....	.....	.....	2,506,711
Texas Co.:					
Corpus Christi	50,976	.....	.....	.....	50,976
Miscellaneous	1,103,540	.....	.....	67,322	1,170,862
Total Corpus Christi ...	4,460,385	512,440	338,760	72,051	5,383,636

Mississippi District

Canal Oil Co.:					
Merrero	204,562	.....	.....	.....	204,562
East Texas Pipe Line Co.:					
Goodhope	.....	149,700	.....	.....	149,700
Shell Pet. Corp.:					
Norco	.....	.....	346,351	.....	346,351
Standard Oil (La.):					
Baton Rouge	370,298	.....	1,444,208	471,592	2,286,098
Texas Co.:					
Amesville	153,988	.....	.....	.....	153,988
Total Mississippi district	728,848	149,700	1,790,559	471,592	3,140,699

Rio Grande Valley District

Coastal Refs., Inc.:					
Port Isabel	.....	.....	131,379	.....	131,379
Total Rio Grande Valley	.....	.....	131,379	.....	131,379

Houston-Texas City District

Atlantic Pipe Line Co.:					
Texas City	223,378	.....	3,812	.....	227,190
Cities Service Export Oil Co.:					
Norsworthy	.....	98,892	.....	.....	98,892
Eastern States Pet. Corp.:					
Houston	.....	.....	309,578	.....	309,578
Humble O. & R. Co.:					
Baytown	999,498	.....	3,654,903	417,937	5,072,338
Texas City	524,908	.....	.....	.....	524,908
Independent Terminal Co.:					
Texas City	.....	.....	214,146	56,000	270,146
Republic Oil Ref. Co.:					
Texas City	.....	.....	361,334	97,653	458,987
Shell Pet. Corp.:					
Houston	46,505	.....	1,256,571	165,061	1,468,137
Sinclair Refining Co.:					
Pasadena	910,950	112,278	(*)	(*)	1,023,228
Sun Oil Co.:					
Norsworthy	209,667	.....	.....	.....	209,667
Texas Co.:					
Houston	181,248	.....	.....	.....	181,248
Miscellaneous	108,628	97,690	1,442,859	800,141	2,449,318
Total Houston district ..	3,204,782	308,860	7,243,203	1,536,792	12,293,637

*Included in miscellaneous.

District Totals

Houston-Texas City	3,204,782	308,860	7,243,203	1,536,792	12,293,637
Sabine district	8,397,246	707,144	8,658,494	905,322	18,668,206
Corpus Christi	4,460,385	512,440	338,760	72,051	5,383,636
Mississippi district	728,848	149,700	1,790,559	471,592	3,140,699
Rio Grande Valley	.....	.....	131,379	.....	131,379
Total	16,791,261	1,678,144	18,162,395	2,985,757	39,617,557

Canadian Fields

(Continued from Page 90)

struck at 967 feet, and the well abandoned at 969 feet and plugged. W. C. Patterson & Co. No. 4, Lot 5, Concession 10, struck gas at 950 feet and salt water at 961 feet. It was plugged back 2 feet and is making around 410,000 feet a day. Armand Smith No. 5, Henry Downing farm, Lot 5, Concession 10, finished at about 975 feet, is making 150,000 feet a day.

In the Eden field, Elgin County, Eden Gas Co. No. 5, Lot 24, Concession 8, Bayham Township, was abandoned at 1,150 feet with tools in the hole, and the outfit has been moved 10 feet for a new start.

In Chatham Township, Kent County, Union Gas Co. No. 9, Lot 9, Concession 11, is below 1,750 feet after getting a small show at 1,600 feet. It looks like a duster. Ogletree Syndicate No. 2, Lot 13, Concession 5, is around 3,780 feet, more than 868 feet in the Trenton limestone, with a very small show of gas.

In the Tilbury field, Kent County, MacNamara Construction Co. No. 2, Elmer Cox farm, Lot 5, Concession 10, Tilbury East Township, was shot with 100 quarts in the Tilbury sand around 1,400 feet. It swabbed 66 bbls. in 24 hours, and looks like a fair producer.

In the Dover field, E. P. Rowe has located No. 3 Bruette in Raleigh Township north of the River Road and west of the Prairie Siding Bridge, and will drill a test of the Trenton limestone.

Central West Fields

(Continued from Page 89)

through the Salt sand, where it gauged 50,000 feet, and through the Maxon sand at 925-43 feet, where the hole filled with water. It was plugged back to 752 feet and 100,000 feet of gas naturally was saved. In Fraction 4, Bern Township, Chesmar Oil & Gas Co. is rigged up for a second test on the T. Dickson lease.

In Meigs County, section 21, Rutland Township, Roberts & Co. No. 1 Frances Snowden gauged 67,000 feet naturally in the Maxon sand at 790-806 feet. In section 3, same township, Fleming & Co. is drilling on the N. Pierce lease to the Maxon sand after finding the Salt sand dry. In section 19, Lebanon Township, Meigs Development Co. is moving a machine on the Mille Watson heirs property.

Drilling Contractors

(Continued from Page 77)

week, all in proven fields with the exception of a wildcat in Madison County. Most of the new work was started in the Amelia and Anahuac fields, which reported 12 locations. Other fields reporting new activity included Raccoon Bend, Hastings, Manvel, Sandy Point, Heyser, Lockridge, Big Creek, Thompson, Dickinson, Tomball, Nome, Ganado, Segno, Keeran, Placedo, Pickett Ridge and Withers.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Shell Oil Co. No. 1-21 Capitan, Santa Barbara Co.	32- 5-30	634	sd. sh. drlg.
Hancock-Bush, No. 1-B Santa Maria, Santa Barbara	26-10-34	1,791	sd. sh. drlg.
Union Oil Co., No. 2-V Santa Maria, Santa Barbara	30-10-33	3,516	sd. sh. drlg.
Union Oil Co., No. 3-E Santa Maria, Santa Barbara	23-10-34	980	sd. sh. drlg.
Union Oil Co., No. 1-O Santa Maria, Santa Barbara	21-10-34	4,145	sd. sh. drlg.
Union Oil Co., No. 18 Orcutt, Santa Barbara Co.	26- 9-34	3,123	sd. sh. drlg.
Rice Ranch Oil Co., No. 4 Orcutt, Santa Barbara Co.	23- 9-34	3,540	sd. sh. drlg.
Valley Oil Co., No. 1 Casmalia, Santa Barbara Co.	20- 9-34	1,921	well cmtd.
Moyle, B. A., No. 1 Gato Ridge, Santa Barbara Co.	4- 8-32	2,625	br. sh. drlg.
Barnsdall Oil Co., No. 6 Gato Ridge, Santa Barbara	9- 8-32	2,515	pmp. 1,500 b.d.
Barnsdall Oil Co., No. 8 Gato Ridge, Santa Barbara	9- 8-32	2,625	sd. sh. drlg.
Stewart-Carter Oil, No. 1 Gato Ridge, Santa Barbara	4- 8-32	2,311	cmtd. 2,160
Petrol Corp., No. 3-A Gato Ridge, Santa Barbara Co.	9- 8-32	2,726	pmp. 2,580 b.d.
Fisher, Dan, No. 1 Cuyama, Santa Barbara Co.	28-11-28	646	sd. sh. drlg.
Calumet Oil Co., No. 16 Shiells, Ventura Co.	3- 3-19	4,466	P.B. 3,310
Union Oil Co., No. 16 Bardsdale, Ventura Co.	12- 3-20	1,540	sd. sh. drlg.
Condor Oil Co., No. 1 Sespe, Ventura Co.	6- 4-19	1,780	br. sh. drlg.
Ivers, H. A., No. 14 Star, Sespe, Ventura Co.	1- 4-20	451	sd. sh. drlg.
Merchants Pet. Co., No. 7 Sespe, Ventura Co.	1- 4-20	996	O.S. drlg.
Speik Oil Co., No. 2 Sespe, Ventura Co.	33- 5-19	2,190	hd. sh. drlg.
Colima Oil Co., No. 2 Sespe, Ventura Co.	25- 5-19	2,290	O.S. drlg.
Bolsa Chica Oil Co., No. 1-A Temescal, Ventura Co.	5- 4-18	2,395	br. sh. drlg.
Pacific Western Oil Co., No. 10 Temescal, Ventura	3- 4-18	2,900	rig. to pump
St. Louis Oil Co., No. 3 Ojai, Ventura Co.	13- 4-24	1,118	O.S. drlg.
Val. Giovani, No. 1 Ojai, Ventura Co.	4- 4-21	211	sd. sh. drlg.
Continental Oil Co., No. 1 Red Mountain, Ventura	7- 3-23	6,296	hd. sh. drlg.
C. C. M. Oil Co., No. 2 Padre Canyon, Ventura Co.	23- 3-24	6,465	redrlg. 3,235
C. C. M. Oil Co., No. 5-A Padre Canyon, Ventura Co.	15- 3-24	4,920	sd. sh. drlg.
Continental Oil Co., No. 3 Padre Canyon, Ventura Co.	15- 3-24	4,198	hd. sh. drlg.
Calco Pet. Corp., No. 4 South Mountain, Ventura Co.	17- 3-20	4,105	pump. 190 b.d.
Associated Oil Co., No. 29 Lloyd, Ventura, Ventura	27- 3-23	5,600	sd. sh. drlg.
Associated Oil Co., No. 60 Lloyd, Ventura, Ventura	27- 3-23	4,784	sd. sh. drlg.
Associated Oil Co., No. 64 Lloyd, Ventura, Ventura	27- 3-23	5,695	sd. sh. drlg.
Associated Oil Co., No. 66 Lloyd, Ventura, Ventura	27- 3-23	4,975	cmtd. 4,970
Associated Oil Co., No. 137 Lloyd, Ventura, Ventura	27- 3-23	6,000	sd. sh. drlg.
General Pet. Corp., No. 17 Barnard, Ventura, Ventura	23- 3-23	7,030	P.B. 6,721
Continental Oil Co., No. 7 San Miguelito, Ventura Co.	23- 3-24	2,597	sd. sh. drlg.
C. C. M. Oil Co., No. 13-B, Rincon, Ventura Co.	8- 3-24	4,400	completing
Den Petroleum Co., No. 1 Devils Den, Kern Co.	20-25-19	3,985	br. sh. drlg.
Goodrum, George, No. 1 Devils Den, Kern Co.	24-25-18	192	sd. sh. drlg.
Tide Water A. O. Co., No. 9-A-3 Lost Hills, Kern Co.	11-26-20	1,560	pump. 30 b.d.
Tide Water A. O. Co., No. 5-M-3 Lost Hills, Kern Co.	2-26-20	1,377	O.S. drlg.
Santa Ynez Oil Co., No. 1 Temblor, Kern Co.	36-29-20	102	sd. sh. drlg.
Welport Oil Co., No. 18 McKittrick, Kern Co.	26-29-21	1,112	sd. sh. drlg.
Continental Oil Co., No. 1 Wasco, Kern Co.	8-27-24	9,591	prod. test
Seaboard Oil Corp., No. 1 Wasco, Kern Co.	26-27-24	6,750	sd. sh. drlg.
Belridge Oil Co., No. 3-35 North Belridge, Kern Co.	35-27-20	4,287	sd. sh. drlg.
Belridge Oil Co., No. 24-35 North Belridge, Kern Co.	35-27-20	6,795	br. sh. drlg.
Belridge Oil Co., No. 62-27 North Belridge, Kern Co.	27-27-20	8,020	O.S. drlg.
Belridge Oil Co., No. 21-1 North Belridge, Kern Co.	1-28-20	7,586	br. sh. drlg.
Tide Water Associated, No. 6 North Belridge, Kern	34-27-20	3,162	br. sh. drlg.
Doyle Pet. Co., No. 2 Quinn, Jasmine, Kern Co.	15-25-27	2,653	reaming
Honolulu Oil Corp., No. 24 Round Mountain, Kern Co.	18-28-29	2,064	pump. 214 b.d.
Honolulu Oil Corp., No. 87 Round Mountain, Kern Co.	18-28-29	1,854	sd. sh. drlg.
Eastmont Oil Co., No. 1 Round Mountain, Kern Co.	16-28-29	1,591	sd. sh. drlg.
Pageman & Hennes, No. 1 Round Mountain, Kern Co.	10-28-29	1,520	sd. sh. drlg.
Shell Oil Co., No. 13 Freeman, Round Mountain, Kern	20-28-29	1,840	sd. sh. drlg.
Republic Pet. Co., No. 12-S, Kern Front, Kern Co.	24-28-27	2,026	O.S. drlg.
Tide Water Associated, No. 52 Kern Front, Kern Co.	23-28-27	2,185	sd. sh. drlg.
Kern River Oilfields, No. 25-2-B Kern Front, Kern Co.	25-28-27	1,490	sd. sh. drlg.
Dougan Oil Co., No. 2 Kern Front, Kern Co.	17-28-27	2,890	pump. 174 b.d.
Oil, Inc., No. 7-2 Kern Front, Kern Co.	13-28-27	1,190	recmtd. 1,145
Barnhart & Morrow, No. 1 Davies, Kern Front, Kern	3-28-27	3,056	dry; abd.
Bishop Oil Co., No. 8 Fano, Kern Front, Kern Co.	23-28-27	1,987	pump. 228 b.d.
California Star Oil Co., No. 7-80 Kern Front, Kern	22-28-27	2,654	fishing
Standard Oil Co., No. 5 Ward, Kern Front, Kern Co.	24-28-27	1,970	pump. 95 b.d.
Pioneer Oil Co., No. 1 Kern Front, Kern Co.	18-28-28	1,308	P.B. 1,110
H. C. L. Co., No. 1 Kern Front, Kern Co.	36-28-27	1,597	sd. sh. drlg.
Milburn, E. B., No. 2 Kern Front, Kern Co.	10-28-27	2,177	P.B. 2,125
Texas Co., No. 6 Lehman, Kern Front, Kern Co.	23-28-27	2,008	pump. 170 b.d.
National Oil Co., No. 9 Gates, Kern Front, Kern Co.	2-28-29	1,481	pump. 40 b.d.
Superior Oil Co., No. 1 Bakersfield, Kern Co.	36-29-28	4,864	sd. sh. drlg.
Sunset Oil Co., No. 1 Union Avenue, Kern Co.	17-30-28	1,540	sd. sh. drlg.
Allied Pet. Co., No. 21 Premier, Kern Co.	29-27-27	2,112	sd. sh. drlg.
Ekoh Oil Co., No. 2 Vedder, Mount Poso, Kern Co.	28-26-28	1,523	hd. sd. drlg.
Chevalier, J. J., No. 3 S. P., Mount Poso, Kern Co.	3-27-28	1,475	O.S. drlg.
Recovery Oil Co., No. 2 S. P., Mount Poso, Kern Co.	33-26-28	1,400	sd. sh. drlg.
Hub Oil Co., No. 1 Mount Poso, Kern Co.	8-28-28	1,560	sd. sh. drlg.
Shell Oil Co., No. 31 Vedder, Mount Poso, Kern Co.	9-27-28	957	sd. sh. drlg.
Western Gulf Oil Co., No. 35 Fruitvale, Kern Co.	21-29-27	3,952	P.B. 3,940
Western Gulf Oil Co., No. 36 Fruitvale, Kern Co.	21-29-27	3,920	O.S. drlg.
Kasey & Associates, No. 1 Fruitvale, Kern Co.	23-29-27	3,114	dry; abd.
Exeter Oil Co., No. 2 Fruitvale, Kern Co.	21-29-27	4,185	pump. 170 b.d.
Trico Oil & Gas Co., No. 3 Fruitvale, Kern Co.	23-29-27	3,191	sd. sh. drlg.
Pal-Pen Oil Co., No. 2 Fruitvale, Kern Co.	23-29-27	3,165	rig. to pump
Banducci, L. J., No. 2-T Fruitvale, Kern Co.	26-29-27	3,392	pump. water
Crude Oil Prod. Co., No. 1 Fruitvale, Kern Co.	21-29-27	3,580	sd. sh. drlg.
Kelley, C. J., No. 2 Fruitvale, Kern Co.	23-29-27	3,160	pump. 350 b.d.
American Expl. Co., No. 1-G Mountain View, Kern	18-30-29	4,175	sd. sh. drlg.
Wood-Callahan Oil Co., No. 3 Mountain View, Kern	25-30-28	5,965	P.B. 5,870
Hogan Pet. Co., No. 4 Symons, Mountain View, Kern	5-31-29	6,557	P.B. 6,188
Liko Pet. Co., No. 1 Mountain View, Kern Co.	19-30-29	5,359	completing
General Pet. Corp., No. 1-F Mountain View, Kern Co.	19-30-29	4,591	sd. sh. drlg.
Mohawk Pet. Co., No. 9-C Mountain View, Kern Co.	30-30-29	5,998	P.B. 5,735
Allied Pet. Co., No. 20 Mountain View, Kern Co.	19-30-29	5,457	redrlg. 5,280
Monterey Expl. Co., No. 6 Duff, Edison, Kern Co.	15-30-28	1,900	sd. sh. drlg.
East Edison Oil Co., No. 2 Edison, Kern Co.	23-30-30	1,150	sd. sh. drlg.
Metro Oil Co., No. 1 Edison, Kern Co.	6-30-29	2,701	P.B. 2,615
Johnson-Leaf Oil Co., No. 1 Edison, Kern Co.	24-30-29	1,480	rig. to pump
Bear Mountain Oil Co., No. 2 Arvin, Kern Co.	16-31-20	1,451	dry; abd.
Arkelo Oil Co., No. 1 Lerdo, Kern Co.	23-28-26	10,050	fish. D.P.
Union Oil Co., No. 1-34 Rio Bravo, Kern Co.	34-28-25	5,950	sd. sh. drlg
Continental Oil Co., No. 1 Rosedale, Kern Co.	12-29-26	7,000	gr. sd. drlg.
Standard Oil Co., No. 11-2 Greeley, Kern Co.	20-29-26	8,339	sd. sh. drlg.
Standard Oil Co., No. 11-3 Greeley, Kern Co.	20-29-26	7,800	flow. 1,575 b.d.
Standard Oil Co., No. 12-1 Greeley, Kern Co.	30-29-26	7,886	cmtd. 7,775
Standard Oil Co., No. 14-1 Greeley, Kern Co.	4-30-26	8,201	sd. sh. drlg.
Mohawk Pet. Co., No. 1 Greeley, Kern Co.	23-29-25	8,000	br. sh. drlg.
Union Oil Co., No. 2 San Emidio, Kern Co.	34-11-22	1,920	sd. sh. drlg.
Shell Oil Co., No. 21-14 Old River, Kern Co.	14-30-25	6,272	sd. sh. drlg.
Shell Oil Co., No. 23-30 Ten Section, Kern Co.	30-30-26	8,039	O.S. drlg.
Shell Oil Co., No. 1 Ten Section, Kern Co.	29-30-26	8,240	swabbing
Signal Oil & Gas Co., No. 1 Ten Section, Kern Co.	21-30-27	8,064	sd. sh. drlg.
Superior Oil Co., No. 8 Ten Section, Kern Co.	11-30-26	10,983	sd. sh. drlg.
C. C. M. Oil Co., No. 23-21 Midway-Sunset, Kern Co.	21-32-23	2,650	pump. 230 b.d.
C. C. M. Oil Co., No. 1-W.P. Midway-Sunset, Kern Co.	28-32-23	3,584	P.B. 2,355
Midcrude Oil Co., No. 2 Midway-Sunset, Kern Co.	22-32-23	1,850	sd. sh. drlg.
R. & W. Oil Co., No. 4 Midway-Sunset, Kern Co.	6-11-23	3,420	P.B. 3,130
Colby, L. W., No. 1 Midway-Sunset, Kern Co.	12-11-24	830	sd. sh. drlg.
Standard Oil Co., No. 124-33-D Midway-Sunset, Kern	33-32-24	2,796	sd. sh. drlg.
Standard Oil Co., No. 55-33-D Midway-Sunset, Kern	33-32-24	3,305	P.B. 3,110
Shell Oil Co., No. 2 McKeon, Midway-Sunset, Kern	22-32-23	1,267	sd. sh. drlg.
Linderman Oil Corp., No. 1 Midway-Sunset, Kern	22-32-23	1,900	sd. sh. drlg.
U. S. Pump Co., No. 1 Midway-Sunset, Kern Co.	12-11-24	1,700	sd. sh. drlg.
North American Oil Co., No. 5 Midway-Sunset, Kern	25-12-24	4,167	pump. 45 b.d.
Texas Co., No. 2 Midway-Sunset, Kern Co.	32-24-24	2,991	sd. sh. drlg.
Union Oil Co., No. 5 Keene, Midway-Sunset, Kern Co.	22-32-23	2,030	sd. sh. drlg.
Hancock Oil Co., No. 6 Midway-Sunset, Kern Co.	8-11-23	3,025	sd. sh. drlg.
Valley Oil Co., No. 1 Midway-Sunset, Kern Co.	18-32-23	2,841	sd. sh. drlg.
Alford Oil Co., No. 8 Fried, Midway-Sunset, Kern Co.	25-12-24	2,924	rig. to pump
Quality Oil Co., No. 4 Bull, Midway-Sunset, Kern Co.	22-32-23	1,852	pump. 50 b.d.
Quality Oil Co., No. 5 Bull, Midway-Sunset, Kern Co.	22-32-23	2,185	rig. to pump
Quality Oil Co., No. 5 W.P., Midway-Sunset, Kern Co.	27-32-23	2,194	sd. sh. drlg.
Honolulu Oil Corp., No. 46 Midway-Sunset, Kern Co.	14-32-24	3,625	cleaning out
Petrolia Royalties, No. 1 Midway-Sunset, Kern Co.	21-32-22	1,160	rig. to pump
Evans, Hugh, No. 16 Midway-Sunset, Kern Co.	35-32-23	1,870	sd. sh. drlg.
Elk Hills Pet. Co., No. 1 Elk Hills, Kern Co.	14-31-24	7,412	sd. sh. drlg.
Reserve Oil & Gas Co., No. 33-1 Tejon, Kern Co.	33-11-19	4,969	idle
Reserve Oil & Gas Co., No. 33-2 Tejon, Kern Co.	33-11-19	4,474	idle
Reserve Oil & Gas Co., No. 33-3 Tejon, Kern Co.	33-11-19	4,431	shut in
Reserve Oil & Gas Co., No. 2-6 Tejon, Kern Co.	2-10-19	971	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

Ohio Oil Co., No. 2 Tejon, Kern Co.	21-11-19	7,950	sd. sh. drlg.
Western Gulf, No. 3 Cantua, Fresno Co.	3-17-15	8,530	P.B. 6,500
Tide Water Assoc., No. 3 Kettleman North, Fresno	35-21-17	8,858	P.B. 7,650
Union Oil Co., No. 2 King, Kettleman North, Fresno	29-21-17	8,500	redrlg. 7,615
K. N. D. A., No. 4-18-J Kettleman North, Fresno Co.	18-21-17	9,614	sd. sh. drlg.
K. N. D. A., No. 56-28-J Kettleman North, Fresno Co.	28-21-17	6,780	br. sh. drlg.
K. N. D. A., No. 65-28-J Kettleman North, Fresno Co.	28-21-17	7,670	sd. sh. drlg.
K. N. D. A., No. 78-28-J Kettleman North, Fresno Co.	28-21-17	5,744	sd. sh. drlg.
K. N. D. A., No. 85-32-J Kettleman North, Fresno Co.	32-21-17	8,500	flow. 1,730 b.d
K. N. D. A., No. 32-34-J Kettleman North, Fresno Co.	34-21-17	601	sd. sh. drlg.
K. N. D. A., No. 63-34-J Kettleman North, Fresno Co.	34-21-17	7,430	sd. sh. drlg.
K. N. D. A., No. 61-4-P Kettleman North, Fresno Co.	4-22-17	7,060	br. sh. drlg.
Standard Oil, No. 38-33-J Kettleman North, Fresno	33-21-17	7,853	sd. sh. drlg.
Standard Oil, No. 81-33-J Kettleman North, Fresno	33-21-17	6,671	sd. sh. drlg.
Standard Oil, No. 78-3-P Kettleman North, Kings Co.	3-22-17	7,460	sd. sh. drlg.
Temblor Oil Co., No. 1-B Kettleman Middle, Kings Co.	25-23-18	5,935	redrlg. 5,550
Clare, A. S., No. 1 Corcoran, Kings Co.	30-20-22	651	sd. sh. drlg.
Tri-Counties Oil Co., No. 1 Tulare Lake, Kings Co.	10-23-22	1,760	sd. sh. drlg.
Stone, G. S., No. 1 Tulare Lake, Kings Co.	25-20-20	1,101	sd. sh. drlg.
Tide Water Associated Oil Co., No. 2 Avenal, Kings	35-23-17	3,088	dry; abd.
Barnsdall Oil Co., No. 1 K.C.L., San Luis Obispo Co.	1-32-20	3,994	sd. sh. drlg.
Burkholder Oil Co., No. 1 Clay, San Luis Obispo Co.	14-10-26	2,086	sd. sh. drlg.
Calif. Prod. Co., No. 1 Pattiway, San Luis Obispo Co.	19-10-24	751	sd. sh. drlg.
Temblor Oil Co., No. 1 Panorama, San Luis Obispo Co.	22-32-21	1,052	gr. sd. drlg.
Lewis, A. O., No. 1 Pecho, San Luis Obispo Co.	34-30-10	2,371	sd. sh. drlg.
Gretna Corp., No. 1 Islay, San Luis Obispo Co.	24-30-10	340	sd. sh. drlg.
Martin, J. D., No. 4-A Pismo, San Luis Obispo Co.	5-32-13	3,300	sd. sh. drlg.
Pismo Pet. Co., No. 1 Pismo, San Luis Obispo Co.	5-32-13	4,225	sd. sh. drlg.
Texas Co., No. 1 King City, Monterey Co.	30-19-7	4,676	hd. sd. drlg.
Anderson, Amil, No. 1 Cholame, Monterey Co.	15-24-14	510	sd. sh. drlg.
Shell Oil Co., No. 1 Pleyto, Monterey Co.	34-24-10	8,994	P.B. 8,750
Shell Oil Co., No. 2 Pleyto, Monterey Co.	34-24-10	8,074	sd. sh. drlg.
Texas Co., No. 2 Eureka, Humboldt Co.	22- 3-1	7,418	cleaning out
Amerada Pet. Co., No. 2 Emigh, Rio Vista, Salona Co.	35- 4-2	3,860	sd. sh. drlg.
Amerada Pet. Co., No. 2 Drouin, Rio Vista, Solano Co.	26- 4-2	4,463	flow. gas
Tide Water A. O. Co., No. 1 Sargent, San Benito Co.	5-12-4	6,860	test wet
Buttes Oilfields, Ltd., No. 1 Kent, Sutter Co.	2-15-1	5,810	sd. sh. drlg.
Jennings, E. P., No. 1 Allensworth, Tulare Co.	4-24-23	2,709	P.B. 2,690
Standard Oil Co., No. 3 McDonald, San Joaquin Co.	24- 2-4	5,300	sd. sh. drlg.
Coast Expl. Co., Well No. 1, San Joaquin Co.	2- 3-4	2,710	gr. sd. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Richfield Oil Co., No. 5 El Segundo, Los Angeles Co.	18- 3-14	6,584	sd. sh. drlg.
Richfield Oil Co., No. 1 S.F., El Segundo, Los Angeles	18- 3-14	6,771	sd. sh. drlg.
Ohio Oil Co., No. 3 El Segundo, Los Angeles Co.	7- 3-14	7,094	blew out
Texas Co., No. 2-1 El Segundo, Los Angeles Co.	17- 3-14	7,715	pump. 154 b.d.
Texas Co., No. 2 Security, El Segundo, Los Angeles	18- 3-14	4,387	sd. sh. drlg.
Republic Pet. Co., No. 6 El Segundo, Los Angeles Co	18- 3-14	503	sd. sh. drlg.
Republic Pet. Co., No. 8 El Segundo, Los Angeles Co.	18- 3-14	2,875	sd. sh. drlg.
Union Oil Co., No. 2 El Segundo, Los Angeles Co.	18- 3-14	7,619	O.S. drlg.
Signal Finance Co., No. 1 Hawthorne, Los Angeles Co.	10- 3-14	9,395	squeeze job
C. C. M. Oil Co., No. 15 Torrance, Los Angeles Co.	31- 3-14	4,487	hd. sh. drlg.
Abrams, John, & Assoc., No. 1 Torrance, Los Angeles	16- 4-14	4,518	sd. sh. drlg.
Calmore Oil Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	5,185	P.B. 3,724
Swyer Oil Co., No. 1 Torrance, Los Angeles Co.	18- 4-14	4,355	sd. sh. drlg.
McLaren & Assoc., No. 1 Palos Verdes, Los Angeles	27- 4-14	3,992	redrlg. 1,860
Standard Oil Co., No. 83 Inglewood, Los Angeles Co.	8- 2-14	3,387	sd. sh. drlg.
Shell Oil Co., No. 89 Reyes, Dominguez, Los Angeles	33- 3-13	7,550	flow. 333 b.d
Shell Oil Co., No. 90 Reyes, Dominguez, Los Angeles	33- 3-13	8,942	O.S. drlg.
Shell Oil Co., No. 91 Reyes, Dominguez, Los Angeles	33- 3-13	981	cmtd. 976
Union Oil, No. 50 Callender, Dominguez, Los Angeles	33- 3-13	10,435	reaming
Union Oil, No. 52 Callender, Dominguez, Los Angeles	33- 3-13	3,932	sd. sh. drlg.
Union Oil, No. 53 Callender, Dominguez, Los Angeles	33- 3-13	7,550	flow. 2,160 b.d
Union Oil, No. 7 Carson, Dominguez, Los Angeles	33- 3-13	7,205	will deepen
Union Oil, No. 46 Hellman, Dominguez, Los Angeles	33- 3-13	5,290	sd. sh. drlg.
Shell Oil Co., No. 1 Rosecrans, Los Angeles Co.	20- 3-13	7,744	P.B. 7,602
Barnsdall Oil, No. 12 O'Dea, Rosecrans, Los Angeles	18- 3-13	5,681	sd. sh. drlg.
Union Oil Co., No. 16 Rosecrans, Los Angeles Co.	18- 3-13	2,191	sd. sh. drlg.
Metropolitan Oil, No. 1 Playa Del Rey, Los Angeles	34- 2-15	1,981	sd. sh. drlg.
Union Oil, No. 17 D.R., Playa Del Rey, Los Angeles	27- 2-15	4,876	sd. sh. drlg.
Burt, A. G., No. 1 Newhall, Los Angeles Co.	36- 4-17	946	sd. sh. drlg.
Holbrook Oil Co., No. 1 Newhall, Los Angeles Co.	28- 4-16	5,055	lule
Premier Pet. Co., No. 1 Wilmington, Los Angeles Co.	33- 4-13	1,450	sd. sh. drlg.
Sunrise Oil Co., No. 1 Wilmington, Los Angeles Co.	28- 4-13	2,679	sd. sh. drlg.
General Pet., No. 1 Ford, Wilmington, Los Angeles	4- 5-13	3,600	sd. sh. drlg.
General Pet., No. 3 Ford, Wilmington, Los Angeles	4- 5-13	2,707	flow. 270 b.d.
General Pet., No. 4 Ford, Wilmington, Los Angeles	4- 5-13	3,506	sd. sh. drlg.
General Pet., No. 5 Ford, Wilmington, Los Angeles	4- 5-13	2,875	sd. sh. drlg.
General Pet., No. 1-I Wilmington, Los Angeles Co.	4- 5-13	1,635	sd. sh. drlg.
General Pet., No. 2-P Wilmington, Los Angeles Co.	4- 5-13	2,511	sd. sh. drlg.
Getty Oil Co., No. 5 Wilmington, Los Angeles Co.	33- 4-13	3,585	flow. 480 b.d.
Getty Oil Co., No. 7 Wilmington, Los Angeles Co.	33- 4-13	3,225	sd. sh. drlg.
Getty Oil Co., No. 8 Wilmington, Los Angeles Co.	33- 4-13	2,810	sd. sh. drlg.
Jergins Trust, No. 1 Wilmington, Los Angeles Co.	34- 4-13	141	sd. sh. drlg.
Burnoel Pet. Co., No. 960 Wilmington, Los Angeles	33- 4-13	3,299	sd. sh. drlg.
Westport Oil Co., No. 6 Wilmington, Los Angeles Co.	33- 4-13	2,760	sd. sh. drlg.
Bankline Oil, No. 12-P.T., Wilmington, Los Angeles	34- 4-13	2,786	sd. sh. drlg.
Bankline Oil, No. 13-D Wilmington, Los Angeles	34- 4-13	3,313	flow. 435 b.d
Pongratz Oil Co., No. 1 Wilmington, Los Angeles Co.	33- 4-13	3,297	sd. sh. drlg.
Pacific Western Oil, No. 2-P Wilmington, Los Angeles	33- 4-13	1,520	sd. sh. drlg.
Union Pacific, No. 5 Wilmington, Los Angeles Co.	4- 5-13	3,512	flow. 675 b.d
Union Pacific, No. 7 Wilmington, Los Angeles Co.	4- 5-13	2,450	sd. sh. drlg.
Union Pacific, No. 8 Wilmington, Los Angeles Co.	33- 4-13	3,210	sd. sh. drlg.
Union Pacific, No. 10 Wilmington, Los Angeles Co.	3- 5-13	2,597	sd. sh. drlg.
Union Pacific, No. 14 Wilmington, Los Angeles Co.	3- 5-13	2,197	sd. sh. drlg.
Union Pacific, No. 18 Wilmington, Los Angeles Co.	4- 5-13	2,542	sd. sh. drlg.
Wilbur, V.R.G., No. 1-W Wilmington, Los Angeles	28- 4-13	2,897	sd. sh. drlg.
Ring Oil Co., No. 1 Wilmington, Los Angeles Co.	5- 5-13	3,725	rig. to pump
Ring Oil Co., No. 2 Wilmington, Los Angeles Co.	5- 5-13	1,752	sd. sh. drlg.
Royalty Service, No. 3-C Wilmington, Los Angeles	5- 5-13	3,639	sd. sh. drlg.
Royalty Service, No. 4-C Wilmington, Los Angeles	33- 4-13	3,595	flow. 615 b.d
Royalty Service, No. 1-B Wilmington, Los Angeles	33- 4-13	3,598	flow. 470 b.d
Royalty Service, No. 1-N Wilmington, Los Angeles	4- 5-13	2,650	sd. sh. drlg.
Royalty Service, No. 2-N Wilmington, Los Angeles	33- 4-13	2,530	sd. sh. drlg.
Gilmore Oil Co., No. 17-5 Wilmington, Los Angeles	33- 4-13	2,254	sd. sh. drlg.
Graham-Loftus Oil, No. 1 Wilmington, Los Angeles	33- 4-13	2,553	sd. sh. drlg.
Gauthier Oil Co., No. 2 Wilmington, Los Angeles Co.	17- 4-13	3,740	circulating
Wilmington Oil Dev., No. 3 Wilmington, Los Angeles	33- 4-13	2,570	sd. sh. drlg.
Sunrise Pet. Co., No. 1 Wilmington, Los Angeles Co.	33- 4-13	2,875	sd. sh. drlg.
Richfield Oil, No. 1 Estrada, Montebello, Los Angeles	5- 2-11	4,173	P.B. 3,885
Texas Co., No. 16 Baldwin, Montebello, Los Angeles	6- 2-11	6,010	sd. sh. drlg.
St. Helens Pet., No. 6 P.&B., Montebello, Los Angeles	5- 2-11	7,199	tested wet
Union Oil Co., No. 26 Montebello, Los Angeles Co.	1- 2-12	4,267	testing
Universal Consd., No. 1-F Montebello, Los Angeles	5- 2-11	2,760	sd. sh. drlg.
Texas Co., No. 13-H.K., Long Beach, Los Angeles Co.	19- 4-12	3,232	pump. 50 b.d.
Hilltop Oil Co., No. 1 Long Beach, Los Angeles Co.	19- 4-12	2,850	sd. sh. drlg.
Caltana Corp., No. 1 Artesia, Los Angeles Co.	11- 4-12	2,964	sd. sh. drlg.
General Pet., No. 27 Santa Fe Springs, Los Angeles	6- 3-11	1,753	sd. sh. drlg.
Hathaway, No. 2 Fulton, Santa Fe Springs, L. Angeles	6- 3-11	4,180	cleaning out
Union Oil, No. 100 Santa Fe Springs, Los Angeles	6- 3-11	10,789	fish. D.P.
Julian & Criswell, No. 1 Walnut, Los Angeles Co.	5- 2-9	1,450	well P.B.
Standard Oil Co., No. 28 S.G., Seal Beach, Orange Co.	11- 5-12	471	sd. sh. drlg.
Tide Water A. O. Co., No. 16-B Seal Beach, Orange Co.	11- 5-12	612	sd. sh. drlg.
Holly Oil Co., No. 7-A Huntington, Orange Co.	35- 5-11	2,975	sd. sh. drlg.
Re-Mine Oil Co., No. 2 Huntington, Orange Co.	2- 6-11	4,570	rig. to pump
Texas Co., No. 8 Brown, Huntington, Orange Co.	11- 6-11	4,148	sd. sh. drlg.
West American, No. 14 Huntington, Orange Co.	34- 5-11	1,952	sd. sh. drlg.
Orco Oil Co., No. 5 Huntington, Orange Co.	2- 6-11	4,697	redrlg. 2,580
Union Oil Co., No. 10-C Huntington, Orange Co.	34- 5-11	3,986	sd. sh. drlg.
Union Oil Co., No. 24-C Huntington, Orange Co.	34- 5-11	4,292	pump. 100 b.d.
Commander Oil Co., No. 1 Newport, Orange Co.	29- 6-10	6,874	br. sh. drlg.
Fullerton Oil Co., No. 20 Brea, Orange Co.	2- 3-10	5,483	P.B. 4,010
Standard Oil Co., No. 63 Emery, West Coyote, Orange	24- 3-11	4,032	sd. sh. drlg.
Hogan Pet. Co., No. 1 McNally, West Coyote, Orange	23- 3-11	4,301	sd. sh. drlg.
Bandini Pet. Co., No. 1 East Coyote, Orange Co.	17- 3-9	2,855	pump. 50 b.d.
Bandini Pet. Co., No. 2 East Coyote, Orange Co.	24- 3-10	741	sd. sh. drlg.
Tide Water A. O. Co., No. 52 East Coyote, Orange	13- 3-10	3,650	pump. 25 b.d.
Union Oil Co., No. 20 Hole, East Coyote, Orange Co.	22- 3-10	2,570	sd. sh. drlg.
Standard Oil Co., No. 2-8 East Coyote, Orange Co.	22- 3-10	4,325	pump. 410 b.d.
Shell Oil Co., No. 1 Mathis, Anaheim, Orange Co.	23- 4-10	5,961	sd. sh. drlg.
Joseph, Arthur, No. 1 Richfield, Orange Co.	29- 3-9	3,731	P.B. 3,668
Principal Oil Co., No. 1 Richfield, Orange Co.	36- 3-9	1,574	sd. sh. drlg.

KANSAS

Week Ending April 24 (Descriptions are East unless marked otherwise)

Barton County

S. E. Bailey No. 1 Hammeke, NE NE SW sec. 12-18-12w. O.W.D.D.; S.D. 2,100 ft.
C. L. Carlock No. 1 Ehly, NE NE SE sec. 5-18-11w. Sil. 3,350 ft.; T.D. 3,390 ft.; set csg.
Continental Oil Co. No. 1 Lamatsch, SW NE NE sec. 26-17-12w. Rig.
George Dickey et al No. 1 Roger, SE SE NE sec. 15-16-13w. U.R. 8-in. 2,300 ft.
J. B. Hanna No. 1 Luce, SW cor. sec. 21-20-13w. Rig.
Indian Terr. Illm. Oil Co. No. 1 Schrapel, SE SE NE sec. 26-20-11w. Sil. 3,295 ft. (cor.); T.D. 3,325 ft.; acd.; pot. 1,451 B.O.; comp.
C. L. Price et al No. 1 Kraft, SW NW NE sec. 10-17-11w. T.D. 3,232 ft.; 1,800 ft. O.I.H.
Stanolind O. & G. Co. No. 1 Meggars, SW cor. sec. 21-20-11w. Drlg. 2,426 ft.
Stanolind O. & G. Co. No. 1 Struder, SE SE SW sec. 26-16-13w. Rig.
Vickers Pet. Co. et al No. 1 Leibel, SE NE SE sec. 18-18-11w. U.R. 8-in. 2,567 ft.
E. F. Wakefield et al No. 1 Scheuerman, NE NE SW sec. 31-16-15w. Drlg. 2,340 ft.
C. H. Weaver et al No. 1 Stumps, NE cor. sec. 3-17-12w. Drlg. 1,190 ft.
Ralph Wixson and Union O. & G. Co. No. 1 Frederick, NW cor. sec. 12-16-13w. K.C. 3,110 ft.; drlg. 3,340 ft.

Butler County

Kahn et al No. 1-A Madden, SW SW NE sec. 27-23-4. Drlg. 2,100 ft.
A. M. Landon et al No. 1 McCaig, NE NE SE sec. 13-28-6. Sd. 2,720-40 ft.; P.B. to 2,737 ft.; swb. 100 B.O. in 24 hrs.; comp.
Sid Neff et al No. 1 Church, SW NE SE sec. 8-28-5. O.W.D.D.; fsg. 1,600 ft.
C. L. Seibel et al No. 1 Bisagno, SE SE NW sec. 24-25-6e. Drlg. 2,645 ft.
Vickers Pet. Co. No. 1 Voth, C N½ NE NE sec. 32-24-4e. Drlg. 2,100 ft.

Chautauqua County

Ira Scott et al No. 1 Lamba, SW NW NE sec. 18-33-13. Drlg. 1,355 ft.
E. J. Shaffer No. 1 Nuckolls, NW cor. sec. 12-33-19. U.R. 10-in. at 900 ft.
W. M. McKnabb No. 1 Griffith, SW cor. sec. 11-32-10. K.C. 1,320 ft.; drlg. 1,323 ft.

Cowley County

Bess & Gralapp et al No. 1 Wakefield, NE SE SW sec. 18-30-6. Drlg. 950 ft.
Elmer Ash et al No. 1 Bolack, NW NW SE sec. 22-32-6. Drlg. 875 ft.
Tom Palmer No. 1-A Lowe, SW SE SE sec. 3-32-5. Drlg. 3,170 ft.
Ryan Consolidated Co. No. 1 Couch, SW SW SE sec. 13-30-5. Bart. 2,796 ft.; pay 2,837-42 ft.; 150 ft. O.I.H.; shot.

Decatur County

C. L. Bruce et al No. 1 Newbold, C NE SE sec. 34-2s-28w. R.U.R.

Edwards County

Royal Pet. Co. et al No. 1 Krupp, NW NW SE sec. 18-24-19w. Anhy. 1,366 ft.; fsg. 2,603 ft.

Elk County

L. H. Wentz et al No. 1 Love, SW SE NE sec. 35-30-9. Chat 2,299 ft.; T.D. 2,348 ft.; D.&A.

Ellis County

Billings No. 1 Smith, SE SE NW sec. 14-12-16w. Spd.
Bridgeport Machine Co. et al No. 1 Froelick, NW NW SE sec. 4-13-16w. Drlg. 2,360 ft.
Elwell and Tree Oil Co. No. 1 Wickham, SW SW NE sec. 10-11-19w. R.U.R.
Ted Kors et al No. 1 Koblitz, SE SW NW sec. 23-12-18w. Pay 3,694-98 ft.; swb. 48 B.O. and swbd. down; T.D. 3,699 ft.; P.B. 3,697½ ft.; P. 13 B.O. and pumped off.
Lario O. & G. Co. et al No. 1 Henderson, SW SW NE sec. 27-11-18w. Drlg. 1,635 ft.
Murphy Oil Co. No. 1 Wiesner, SE SE SW sec. 12-14-19w. K.C. 3,480 ft.; drlg. 3,620 ft.
J. J. Muth No. 1 Penney, NW SE SE sec. 29-14-18w. Spd. and S.D.
Noble Pet. Corp. No. 1 O'Laughlin, NW NW SE sec. 13-12-19w. Fsg. 3,070 ft.
J. C. Shaffer, Inc., No. 1 Staab, SE cor. sec. 25-12-18w. Rig.
Earl Wakefield No. 1 Putnam Mortgage Co., SE SE NW sec. 32-15-17w. Dodge 3,166 ft.; K.C. 3,199 ft.; drlg. 3,345 ft.

Ellsworth County

Frost et al No. 1 Dolechek, NE NE SW sec. 36-14-8w. U.R. 8-in. 2,880 ft.
Orville Lea No. 1 Larkin, NW cor. sec. 15-16-8w. S.D. 150 ft.

Finney County

Keith & Olson Drlg. Co. No. 1 Ely, NW NW SW sec. 34-22-29w. T.D. 5,556 ft.; D.&A.

Greenwood County

L. S. Bolwanz No. 1 Travelers, C SW SW sec. 23-26-10. Fsg. 1,745 ft.
Ohio Oil Co. No. 1 Schwab, SE SW SE sec. 9-24-10. Viola 2,763-66 ft., acd.; P. 9 B.O. and 85 B.W. in 24 hrs.
Dr. Shippey No. 1 Boone, NE NE NW sec. 21-26-12. O.W.D.D.; T.D. 1,875 ft.; D.&A.
Shull Drlg. Co. No. 1 Cannon, NE SE NE sec. 23-25-12. Fsg. 1,560 ft.

Hamilton County

Denver Prod. & Ref. Co. No. 1 Porter, SW SW NE sec. 30-25-41w. Rig.

Harper County

Carter Oil Co. et al No. 1 Seihart Est., C SW NW sec. 4-34-8w. Drlg. L. 4,585 ft.; cd. 4,650-60 ft.

Harvey County

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. Viola 3,695 ft.; Wilcox 3,711 ft., T.D.; D.&A.

Kearny County

J. L. Murphy No. 1 Campbell, NW NW SW sec. 32-25-35w. T.D. 2,793 ft.; 1,500,000 ft. gas; comp.
J. L. Murphy No. 1 Masonic Home, C NW sec. 1-26-36w. R.U.R.

Logan County

W. H. Boucher No. 1 Wright, C SE SE sec. 12-15-35w. K.C. 4,060 ft.; drlg. 4,330 ft.

Lyon County

Davis & Sory No. 1 Byrd, SW SW SE sec. 32-21-11. Drlg. 590 ft.
Young et al No. 1-A Murphy, SE NW NE sec. 32-21-11. S.D. 1,380 ft.

McPherson County

Bradley Bros. No. 1 Barnholt, SW SW SE sec. 30-20-5w. Set 10-in. 1,915 ft.; C.O.
Fred C. Frank et al No. 1 Doles, SE NW NE sec. 12-19-1w. S.D. 600 ft.
Hutchinson O. & G. Co. et al No. 1 Berg, SW SW SE sec. 15-20-3w. Simp. 3,598-3,612 ft., T.D.; 500 ft. W.I.H.
Lauck & Moncrief No. 1 Crebbiel, SE SE SW sec. 27-21-2w. Drlg. 1,610 ft.
Smith et al No. 1 Larson, NW NW SW sec. 35-18-5w. R.U.
Wamhoff et al No. 1 Nuse, SE NE SW sec. 18-18-4w. Set 10-in. 110 ft.; W.O.C.

Mitchell County

Geo. Siedhoff et al No. 1 Greiss, SW SW SE sec. 16-8-10w. Drlg. 2,750 ft.

Ness County

Jones & Lane No. 1 Page Milling Co., SE SE NW sec. 36-18-26w. Rig.
Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. U.R. 6-in. 4,160 ft.

Osborne County

J. E. Waldron No. 1 Neuschwanger, SE NE NW sec. 11-8-14w. Spd. and S.D.

Pawnee County

Capshaw et al No. 1 Riederer, C W½ NW SE sec. 29-21-19w. Drlg. 2,893 ft.

Reno County

Atlantic Ref. Co. No. 1 Page, SE NW NW sec. 19-23-7w. T.D. 4,089 ft.; D.&A.
Imo O. & G. Co. and others No. 1 Watkins, SE cor. sec. 14-22-7w. Drlg. 550 ft.
Clyde Pulse No. 1 Payne, SW NW SE sec. 4-22-7w. Cong. 3,398 ft.; Chat. 3,426 ft.; H.F.W. 3,440 ft., T.D.; P.B. 3,287 ft.;

acd. and re-acd.; P. 135 B.O. in 24 hrs.
Olson Drlg. Co. et al No 1 Herriman, NW cor. sec. 22-24-8w. Viola 4,068 ft.; Simp. 4,074; Sil. 4,154 ft.; drlg. 4,178 ft.
Sinclair Prairie Oil Co. No. 1 Natt, NW NW SE sec. 32-26-4w. Drlg. 2,610 ft.
Westgate-Greenland Oil Co. No. 1 O'Sullivan, SW SW NE sec. 24-23-5. Drlg. 3,432 ft.

Rice County

Comanche Oil Co. No. 1 Cramm, SW SW SE sec. 15-19-9w. R.U.
L. E. Douglass No. 1 Coyne, NE SE SE sec. 24-21-8w. S.D. 2,415 ft.
Empire O. & R. Co. No. 1 Bredfeldt, C N½ N½ SW sec. 7-18-9w. Drlg. 242 ft.
Hanna et al No. 1 Brothers, SE SE NW sec. 25-20-8w. Viola 3,588 ft.; T.D. 3,691 ft.; abd.
John Hanna et al No. 1 Fulton, NW NW NE sec. 24-10-6w. Drlg. 2,768 ft.
Hipple et al No. 1 Wernet, NE NE NW sec. 11-20-6w. Drlg. 280 ft.
T. C. Johnson No. 1 Shubert, SW cor. sec. 9-20-10w. H.F.W. 3,426-29 ft., T.D.
Fred Phillips et al No. 1 Hubenett, SW NW SW sec. 23-20-6w. Set 8-in. csg. 2,520 ft.; C.O.
Skelly Oil Co. & Ewers Simpson Oil Corp. No. 1 Linville, SW NW NE sec. 2-20-10w. K.C. 3,008 ft.; Simp. 3,295 ft.; Sil. 3,315-27 ft., T.D.; D.&A.
C. E. W. Skiles et al No. 1 Helmer, NW NW NE sec. 7-19-18w. R.U.
Union Oil & Refining Co. et al No. 1 Baker, SW SW NE sec. 33-20-6w. Drlg. 2,500 ft.
W. E. Witt et al No. 1 Fair, NW SE SE sec. 4-22-8w. S.D. 1,890 ft.

Rooks County

Basin Oil Co. No. 1 Baxa, NE cor. sec. 23-9-17w. S.D. 2,975 ft.
Brunson Drlg. Co. et al No. 1 Casey, SE SE NE sec. 22-9s-16w. Drlg. 409 ft.
Buckner & Schoff No. 1 McConnel, NE cor. sec. 34-8s-18w. S.D. 3,365 ft.
Graham et al No. 1 Fike, SW cor. sec. 9-9-17w. T.D. 3,301 ft.; R.U.; D.D.
S. C. Hoel et al No. 1 Ives, SW SW NE sec. 11-7-18w. Spd. and S.D.
Jones Bros. No. 1 Wiss, NW cor. sec. 8-10-18w. Drlg. 2,721 ft.
J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. Drlg. 3,611 ft.
Snowden & McSweeney No. 1 Hindman, C E½ NW sec. 35-7s-17w. H.F.W. 3,180 ft., T.D.; P.B. to 3,118 ft.; P. 20 B.P.D. comp.
Twin Drlg. Co. No. 1 Doughty, SW cor. sec. 15-8-19w. O.W.D.D.; Sil. 3,438 ft.; S.S.O. 3,470 ft.; H.F.W. 3,490 ft.; D.&A.

Rush County

Duwe & Brouk No. 1 Lebsack, SE SE NE sec. 13-16-16w. Set 15-in. at 356 ft.; W.O.C.
S. A. Murphy et al No. 1 Roth, NW NW SW sec. 21-16-18w. Anhy. 1,159 ft.; T.D. 2,605 ft. (cor.); est. 15,000,000 ft. gas. C.O.

Russell County

Aylward et al No. 1 Jones SE SE NW sec. 23-14-13w. Rig.
Equity Gas Co. No. 1 Harbaugh, NW NE SW sec. 19-13-12w. S.D. 1,580 ft.
Goldstein and Vernon Oil & Gas Co. No. 1 Steinert Estate, NE SE NW sec. 34-15-15w. Drlg. 310 ft.
S. M. Murphy et al No. 1 Deines, SE SE SW sec. 36-15-15w. U.R. 8-in. 2,382 ft.

Sedgwick County

Cameron et al No. 1 Smith, SW SE SE sec. 13-27-2e. Set 5-in. 3,026 ft.; C.O. 3,087 ft.
Empire O. & R. Co. No. 1 Kimel, NW cor. sec. 4-29-2w. Simp. 4,094 ft.; cg. 4,102 ft.
Roxana Drlg. Co. et al No. 1 Woodman, SW NW SW sec. 26-26-1w. S.D. 2,469 ft.
E. B. Shawver No. 1 Furman, SW NE SE sec. 24-29-3w. S.D. 1,400 ft.
E. M. Swearer et al No. 1 Thome, SW SW NW sec. 19-28-1w. T.D. 3,605 ft.; 3,000 ft. F.I.H., 75% wtr.

Stafford County

Empire O. & R. Co. No. 1 O'Connor, NE cor. sec. 17-24-15w. T.D. 4,133 ft.; D.&A.
W. P. Faulkner No. 1 Schulz, SE SE NE sec. 6-22-13w. Rig.

Sumner County

Glimac Oil Co. et al No. 1 Proud, SW SE SE sec. 33-30-1w. Set 12-in. 205 ft.
Graham et al No. 1 Dawson, NW NW NW sec. 4-33-2w. Drlg. 4,255 ft.
Olson Drlg. Co. et al No. 1 Barr, SE cor. sec. 8-34-2w. T.D. 4,750 ft.; D.&A.
E. B. Shawver et al No. 1 Bryan, C W½ W½ SW sec. 36-30-2w. Chat 3,753 ft. (cor.); T.D. 3,830 ft.; D.&A.
Texas Co. No. 1 Harper, NE SW SE sec. 9-20-3w. Chat 3,817 ft.; R.U.S.T. 3,827 ft.

Woodson County

Harper et al No. 1 Miller, NW NE SE sec. 10-24-14. S.D. 1,650 ft.
Kansas O. & G. Corp. No. 1 Providence, SW SW SE sec. 6-24-15. Drlg. 500 ft.
Katz No. 1 Guy, SW SW SE sec. 6-24-15 Drlg. 750 ft.
Reed et al No. 1 Piper, NW NW SE sec. 19-23-15. L. 1,535 ft.; T.D. 1,575 ft.; acd.; P. 35 B.O.P.D.; comp.
Papoose Oil Co. et al No. 1 Jones, NW SE NW sec. 2-4-5. Rig.

Pottawatomie County

Mid-Continent Pet. Corp. No. 1-A Logan, NE NE SE sec. 31-11-5. Wilcox 4,839 ft.; T.D. 4,843 ft.; R.U.S.T.

Pushmataha County

Erle Halliburton et al No. 1 Bagwell, SW NE NE sec. 30-3s-15e. T.D. 1,293 ft.; S.D.

Seminole County

Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Reed, SE SW SE sec. 19-10-8. Drlg. 3,451 ft.
J. E. Hall et al No. 1 White, SE NW SE sec. 30-6-8. T.D. 2,610 ft.; P.B. 1,275 ft.; C.O.
Sinclair Prairie Oil Co. No. 1 Rossanna, NW NW SW sec. 28-10-8. Wilcox 4,176 ft.; T.D. 4,189 ft.; shot; swb. 115 B.O. in 24 hrs.
A. I. Spears No. 1 Keaton, NW cor. sec. 6-5-8. Sd. 1,382 ft.; S.S.O.

Texas County

Cabot Carbon Co. No. 1 Calvert, C sec. 14-3n-16ecm. Set 7-in. 2,500 ft.; T.D. 2,540 ft.
Cabot Carbon Co. No. 1 Castro, C SE sec. 19-3n-17ecm. T.D. 2,570 ft.; 3,600,000 ft. gas at 2,690 ft.; plugging back.
Missouri Valley Gas Corp. No. 1 well, C sec. 17-6n-14ecm. Drlg. 2,257 ft.

Washita County

John Koberg No. 1 Harms, NW NW NE sec. 6-10-16w. Drk.
L. P. McWhirter No. 1 fee, NW SW SW sec. 34-8-19w. T.D. 1,779 ft.; S.D.

SOUTHERN OKLAHOMA

Atoka County

A. J. Sanders No. 3 Redden, SE SW SW sec. 19-1n-15e. T.D. 1,260 ft. (cor.); S.D.

Comanche County

E. B. Hane No. 1 Duper, NW cor. sec. 21-2n-13w. S.D. 250 ft. for csg.
C. V. Morris No. 1 Young, SE NE SE sec. 24-3n-10w. Drlg. 1,000 ft.
Frank Scott No. 1-A Kuntz, SE NE SE sec. 21-4n-11w. T.D. 2,338 ft.; S.D. for csg.

Jefferson County

Buffalo Oil Co. No. 1 Crownover, SE SE NW sec. 21-6s-6w. T.D. 2,811 ft.; H.F. W.; D.&A.
Dodson, Wells-Pierson No. 1 Key, SE SE NW sec. 6-8s-6w. T.D. 3,360 ft.; D.&A.
Gulf Oil Corp. No. 1 Woodworth, NW NW NE sec. 20-3s-4w. Drlg. 2,340 ft.
Heenan & Coe et al No. 1 Rose, C SW SW sec. 1-5s-5w. Drlg. 1,311 ft.
Massad & Swansberger No. 1 Barrett, NE cor. SE SE sec. 14-6s-6w. T.D. 1,800 ft.; S.D.

Johnston County

Patton et al No. 1 McCrummens, SW SW NE sec. 16-1s-6e. T.D. 1,155 ft.; S.D.

Love County

Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW sec. 26-6s-2w. T.D. 8,583 ft.; P.B. 6,927 ft.; fsg. for tubg. at 5,288 ft.

Marshall County

Stuart & Taylor No. 1 Chestnut, NE cor. sec. 23-8s-5e. T.D. 803 ft.; recmtd. 5⅛-in. csg. at 777 ft.; W.O.C.

Murray County

O. O. Owens No. 1 Fryer, NE SE NE sec. 34-1s-3e. Drlg. 525 ft.
Power Oil Co. et al No. 1 Lancaster Trust, C SW NE sec. 10-1s-2e. T.D. 3,438 ft.; P.B. to 3,175 ft.; S.D.
J. Ben Russell No. 1 fee, SE SE NW SE sec. 9-2s-3e. T.D. 1,681 ft.; S.D.

Stephens County

Wm. Angle No. 1 Lang, SW SW NE sec. 24-1n-7w. R.U.R.
William Angle No. 1 Posey, C NW NW sec. 8-1n-8w. T.D. 5,504 ft.; S.D.O.
Carter Oil Co. No. 1 Harley, C NE NE sec. 24-2s-4w. Hunton 4,374 ft.; T.D. 4,677 ft.; tstg. with Halliburton tester.
H. J. Edwards No. 1 Frederick, SW cor. NE SE NW sec. 31-2n-8w. T.D. 2,754 ft.; S.D.
Helmerich & Payne No. 1 Graham, SW SW NE sec. 12-1n-5w. T.D. 5,014 ft.; gas killed; S.D.O.
B. F. Lundy No. 1 Calmes, NW SW SE sec. 35-1n-4w. Drlg. 3,681 ft.
Charles Newsom No. 1 Pfile, SW cor. sec. 1-2s-7w. Set 10-in. csg. 115 ft.; T.D.
Geo. L. Price et al No. 1 Tyson Dev., SE NW SW sec. 27-1s-9w. Drlg. 250 ft.

Tillman County

Magnolia Pet. Co. No. 1 Brown, SW SE NE sec. 21-3s-18w. Drlg. 655 ft.

OKLAHOMA

Week Ending April 24

NORTHERN OKLAHOMA

Alfalfa County

Olson Drlg. Co. et al No. 1 Acre, C SW NE sec. 14-24-11w. O.W.P.B.; to stndze.

Beckham County

Carter Oil Co. No. 1 Porter, C SW SW sec. 36-10-25w. R.U.R.
Mid-American Oil Co. No. 1-A Biscoe, SW cor. sec. 28-8-22w. Drlg. 1,650 ft.

Caddo County

Clyde Becker et al No. 1 Pharris, SE SE NW sec. 24-6-12w. Tools on ground.

Cleveland County

W. R. Hollenbeck No. 1 Norman, NW NW NE sec. 17-9-2w. Paw. 3,505 ft.; drlg. 4,580 ft.

Creek County

M. W. Mosier et al No. 1 Holcomb, SE SW NW sec. 19-18-8. Drlg. on baller 2,935 ft.
Comail Oil Co. et al No. 1 Hall, SW SW NE sec. 2-15-7. Wilcox 3,999 ft.; T.D. 4,020 ft.; D.&A.

Garfield County

Arab Oil Co. No. 1 Harkendorf, NE cor. sec. 34-20-3w. T.D. 5,925 ft.; taking D. S.T.
Ohio Oil Co. No. 1 State, SW cor. sec. 13-23-3w. Paw. 2,260 ft.; Oread 2,655 ft.; drlg. 2,860 ft.

Garvin County

Hayes Drlg. Co. No. 1 Howell, C SE NW sec. 34-1n-1e. Drlg. 3,445 ft.

Grady County

Western White Lily Oil Co. No. 1 Stover, SE SW NW sec. 33-3n-7w. Drlg. 3,337 ft.

Greer County

Nelf-Godfrey-Andrea No. 1 Melton, SE NW SE sec. 16-3n-22w. R.U.R.

Haskell County

Continental Oil Co. No. 1 Anderson, SW SE NE sec. 33-8-20. Spd.

Harmon County

Penn State Oil Co. No. 1 Cole, C W½ SW NW sec. 21-2n-26w. Dry granite wash 3,360 ft.; drlg. 3,661 ft.

Hughes County

Cap Rock Oil Co. No. 1 Parks, SW SW SE sec. 34-7-8. O.W.D.D.; drlg. 2,490 ft.
C. J. Wrightsman No. 1-A Diamond, NE NE SE sec. 33-9-9. First Wilcox 4,246-58 ft., S.S.O.; 2nd Wilcox 4,279½-80 ft.; T.D.; P.B. 3,420 ft.; 30,000,000 ft. gas; comp.

Kay County

Fortuna Oil Co. No. 1-A Harris, SW SW NE sec. 14-25-1e. S.D. at 383 ft.
Higdon et al No. 1 Nieman, NE NW NE sec. 9-26-3e. Drlg. 250 ft.

Kiowa County

Argus Pet. Co. No. 1 Osborne, NW cor. NE sec. 9-7-16w. S.O. 1,246-50 ft., in L.; S.D. to run pipe.
Kiowa Oil Corp. No. 1 Finder, C SW NE sec. 4-6-20w. Spudded.

Latimer County

Clark Drlg. Co. et al No. 1 Wilson, C SE SE sec. 15-5-18. T.D. 4,592 ft.; S.D. for repairs.

Le Flore County

Lynch et al No. 1 Tidwell, C NW SE sec. 17-3n-22. Set 8-in. 2,913 ft.; drlg. 2,920 ft.

Logan County

Anthony & Marshall No. 1 Fruin-Eckman, SE SE SW sec. 4-16-1e. T.D. 4,975 ft.; acid in hole to eliminate iron; waiting on acid.
Eason Oil Co. et al No. 1 Sisters, SW cor. sec. 24-17-1w. Drlg. 3,440 ft.
Helmerich & Payne et al No. 1 Randall, SW SW NW sec. 24-16-1w. Drlg. 80 ft

Noble County

Lincoln Oil Co. et al No. 1-A Nell, NE cor. sec. 15-23-2w. Layton 3,695 ft.; drlg. 4,400 ft.
Magnolia Pet. Co. No. 1 Forsythe, SE SE SW sec. 23-21-2w. Drlg. 50 ft.
Summit Drlg. Co. et al No. 1 Dolezal, SE SE SW sec. 8-22-1w. R.U.R.

Okfuskee County

Mid-Continent Pet. Corp. No. 1 Gofford, NE NE NW sec. 35-12-7e. Hunton 4,361 ft.; cd. 4,368-83 ft.; S.G.
Oklahoma Oil Corp. No. 1 Campbell, SE SE NE sec. 8-10-9. Rig.

Osage County

Bay Oil Corp. No. 1 Osage, NW cor. sec. 35-24-7. Chat 2,803-30 ft., T.D.; D.&A.
Norbla Oil Co. No. 1 Osage, NE NE SW sec. 13-23-6. Rig; R.U.S.T.

Payne County

Bill Riddle No. 1 Van Zandt, NW NW SE sec. 16-18-3e. Rig.

Pontotoc County

W. A. Delaney et al No. 1 Norris, NW NW SE sec. 18-4-8. Spd.
E. H. Moore et al No. 1 Muse, SW NE SE sec. 33-2n-7. T.D. 5,253 ft.; P.B. to 4,570 ft.; acd.; flwd. 171 B.O. in 24 hrs.; comp.

ARKANSAS

Clark County

W. M. Martin No. 1 Coke, NW sec. 14-10-20. S.D. 1,002 ft.

Hempstead County

Shepherd & Todd et al No. 1 Smith, NW SW SE sec. 11-11-25. S.D. 1,170 ft.

Lafayette County

Carl B. King Drlg. Co. No. 1 Eben H. Woolcott, NE cor. sec. 36-19-26. Drlg. 5,909 ft.

Little River County

Joe Strahan No. 1 Dierks, SW SE sec. 21-12-28. Fsg. 2,330 ft.

Miller County

E. H. Moore No. 2 Dale, 660 ft. N and W, C sec. 24-15-26. Drlg. 2,850 ft.
E. H. Moore No. 3 Dale, 660 ft. W of No. 7, sec. 24-15-26. R.U.
Nivia Oil Corp. No. 1 M.&P. Bank, NE SE SE sec. 18-15-26. Cg. 3,937 ft.

Miller County—Rodessa

McClanahan et al No. 1 W. L. Capps, sec. 11-20-28. 13-in. cmtd. 250 ft.; W.O.C.S.

Nevada County

Benedum & Trees No. 9 Grove, NE NE SW sec. 10-14-20. R.U.; W.O.
Benedum & Trees No. 2 Mary Jackson, SE NE NE sec. 9-14-20. M.I.R.
Benedum & Trees No. 1 A. R. Mitchell, SE SW SE sec. 4-14-20. R.U.
Berry Asphalt Co. No. 2 J. Haynie, NE SE SW sec. 6-14-20. T.D. 1,239 ft.; cg. oil sd.; W.O.S.R.
Berry Asphalt Co. No. 3 W. Haynie, SE NE SW sec. 6-14-20. P.B. to 1,168 ft. and set 6-in.; W.O.C.S.
Hall & Briscoe No. 2 Ritchie, NE NW SE sec. 10-14-20. T.D. 2,275 ft.; arg. P.B.
Wm. S. King No. 1, sec. 6-13-22. T.D. 2,610 ft.; Travis Peak; W.O.
A. M. Lacy No. 1 H. C. Bennett, SW SE sec. 24-14s-22w. Drk.
Walter Lowd No. 1 T. S. Grayson, SW SW SE sec. 12-14-20. T.D. 2,385 ft.; S.D.; W.O.
Shepard, Traylor & Jones No. 1 Purifey, NE NE sec. 17-11-20. 10-in. set 52 ft.
W. E. Stewart No. 1 Mendenhall, cen. SE NW NE sec. 1-14-20. S.D. 2,313 ft.
G. H. Vaughn No. 1 Christopher, SW SW SE sec. 3-14-20. S.D. 4,335 ft.

Ouachita County

Copenhaver Oil Corp. No. 1 J. E. Evans, C sec. 20-11-19. Loc.
H. H. Taylor No. 1 Joe McCree, NW SW NW sec. 21-13-19. Drk.

Paluski County

A. L. Kilselman No. 2 Kilselman, Jr., SE SE SW sec. 2-1s-13e. Drk.

Union County

Bruce Hunt No. 1 Robbins, 330 ft. N and E, SW SW SE sec. 12-19s-16. Drk.
Dietrich et al No. 1 Aaronson, NE SW NE sec. 3-18-16. T.D. 2,286 ft.; D.&A.
Lion Oil No. 2-B Edna Morgan, SW NW SE sec. 18-18-17. R.U.
McCreslenn Oil Co. No. 5 L. Atkins, SW SW NE sec. 3-18-13. Drk.
Marine Oil Co. No. 1 Marcus Justiss, NW½ sec. 18-18-17. 16-in. csg. set 106 ft.; W.O.C.S.
Marine Oil Co. No. 6-E W. B. Thompson, SW NE NE sec. 10-18-13. Hole junked; T.D. 2,640 ft.; skidded rig and 10-in. cmtd. 237 ft.
Penn-Ark. Corp No. 1 W. N. Raulston, 330 ft. S and E, NW NW SE sec. 12-17-14. T.D. 2,983 ft.; W.O.S.R.
S. H. A. Oil Corp. No. 1 H. D. Warren, NE SW SW sec. 10-17-14. Drlg. out cmt. 3,342 ft. and W.O.S.R.; T.D. 3,342 ft.
Sklar No. 1-A Cordell, NE SE SW sec. 24-17-16. T.D. 2,160 ft.; stdzg.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo—Rodessa

Drillers, Inc., No. 1 Glassell-Means, SW NE SE sec. 9-23-15. Drlg. 4,374 ft.
Gulf Oil No. 1 Campbell, C sec. 4-23-16. 7-in. cmtd. 5,943 ft.; tstg.; T.D. 6,050 ft.
J. Edw. Jones No. 2-B Sharp, NW C sec. 4-23-16. 7-in. cmtd. 5,973 ft.; tstg.; T.D. 6,070 ft.
J. Edw. Jones No. 4-A Sharp, SE C sec. 4-23-16. 7-in. cmtd. 5,960 ft.; tstg.; T.D. 6,047 ft.
Lion Oil Rfg. No. 1 Holm, NW SE SE sec. 9-23-15. Rng. 7-in.; T.D. 6,042 ft.
Lyons & Neely No. 1 Noel, SE cor. sec. 8-23-15. Gas well; put on gauge.
Lyons & Neely No. 2 Noel, SW SE SE sec. 8-23-15. 7-in. cmt. 5,881 ft.; T.D. 5,930 ft.; W.O.C.S.; gas well; wait for gauge.
Magnolia Pet. Co. No. 11-A Caddy Lvy. Bd., SW cor. sec. 21-23-16. Comp.; flw. 20 B.P.H.; T.D. 5,980 ft.
Marr et al No. 5 Hunter, sec. 13-23-16. O.W.D.D.; T.D. 7,202 ft.; ran Schlumberger; W.O.
R. W. Norton No. 2 L. C. Harden, 585 ft. E. 656 ft. N. SW cor. 56-ac. tr., sec. 20-23-16. Drlg. 5,394 ft.
R. W. Norton No. 3 L. C. Harden, SW sec. 17-23-16. 13-in. cmtd. 250 ft.
R. W. Norton No. 1 Payne, C SE SE sec. 27-23-16. Cg. 9,363 ft.
R. W. Norton No. 4 Starke, 1,980 ft. N, 660 ft. E, SW sec. 16-23-16. Cg. 5,895 ft.
Standard Oil of La. No. 3 Armistead Comm., SE SE SE sec. 4-23-16. R.U.
Standard Oil Co. No. 1 L. J. Kaempfer, SE sec. 9-23-16. Drlg. 5,928 ft.

Standard Oil Co. No. 1 Sarah Kaempfer, NW NW NE sec. 9-23-16. Drlg. 5,478 ft.
Standard No. 1 W. M. Terry, SE NE SW sec. 9-23-16. Comp.; flw. 694 B.P.D.; T.D. 5,975 ft.
United Gas No. 6 fee 574, SW NE NW sec. 16-23-16. Drlg. 1,538 ft.
United Gas No. 9 Bremer Unit, SW sec. 22-23-16. Drlg. 3,768 ft.
United Gas No. 1 A. B. Land Unit, NW sec. 32-23-16. Drlg. 5,139 ft.
United Gas No. 1 Starke, SE SW sec. 9-23-16. Drlg. 5,318 ft.
United Gas No. 5 Young, NW sec. 27-23-16. Cg. 6,530 ft.

N. LOUISIANA WILDCATS

Bienville Parish

DeSota O. & G. Co. No. 1 Ashley, SW SE sec. 15-16-10w. R.U.
Lide & Greer No. 1 W. J. Smellev, SE NW SW sec. 18-16-4w. Drlg. 4,585 ft.
McDowell et al No. 1 Locke, NE cor. sec. 9-15-10. S.D. 2,568 ft. (cor.).

Bossier Parish

Arkansas-La No. 2-B Werner, NE cor. sec. 7-17-11. Loc.
Arkansas-La. No. 1 Tom Wilson, SW sec. 8-17-11. Comp.; 26,717,800 ft. gas; T.D. 4,374 ft.
Haynes Drlg. Co. No. 1 A. J. Murff, NE SE sec. 35-17-12. T.D. 6,112 ft.; perf. csg. and tstg.
Premier No. 7 Weaver, NW SE NW sec. 14-19-11. Drlg. 210 ft.
Premier Inv. Co. No. 38 Wyche, SW NE NW sec. 14-19-11. Comp.; pmp. 40 B.P. D.; T.D. 424 ft.
Producers O. & G. Co. No. 1 Hill Est., E½ NE¼ sec. 8-17-11. R.U.
Producers O. & G. No. 1 R. Johnson, NE sec. 5-17-11. R.U.
Tidwell et al No. 1 Natting, sec. 15-22-14. T.D. 2,954 ft.; S.D.
Triangle No. 2 Ross Unit, NW SW NW sec. 23-17-12. T.D. 5,180 ft.; perf. and tstg.
Triangle Drlg. Co. No. 2-A State, SW cor. sec. 23-17-12. Drlg. 4,400 ft.
United Gas No. 1 Henderson, NE cor. sec. 36-17-12. P.B. 4,400 ft.; old T.D. 5,-912 ft.
United Gas No. 1-I Skannal, SW SW sec. 25-17-12. Comp.; flw. 345 B.P.D.; T.D. 5,175 ft.
United Gas No. 2-I H. C. Skannal, SW sec. 25-17-12. R.U.
United No. 1-A Webb, C sec. 23-17-12 Comp.; 20,000,000 ft. gas; T.D. 5,085 ft.

Caddo Parish

J. G. Abney No. 1 Thigpen & Herold, NW SW sec. 15-21-15. Drk.
Bayou State No. 5 Brown, SW SE NE sec. 28-22-15. Drlg. 800 ft.
Calatex O. & G. No. 3-A Agurs, SW. cor. sec. 6-16-6. R.U.
W. D. Chew No. 3 Rives, NE sec. 5-20-16. Comp.; pmp. 25 B.P.D.; T.D. 946 ft.
W. D. Chew No. 4 U. S. Govn., NW sec. 5-20-16. T.D. 949 ft.; W.O.S.R.
C. C. Chew No. 3 Pender, NW NW SW sec. 11-20-15. Comp.; pmp. 175 B.P.D.; T.D. 2,202 ft.
Paul Cooper No. 2 Rodgers, NW SW SW sec. 11-20-15. R.U.
Custer Oil Co. No. 1 Wemple, N½ NW sec. 14-20-15. Drlg. 1,965 ft.
D. K. O. Oil Corp. No. 1 Player, SE NW SE sec. 26-21-15. T.D. 1,575 ft.; acidized; tstg. dry; W.O.
D. K. O. Oil Corp. No. 1 Tyson, SE NE sec. 17-21-15. 10-in. cmtd. 100 ft.
DeMaggo et al No. 1 Huckaby, SE NE SE sec. 26-22-16. Fsg. for D.S. 1,400 ft.
G.R.C. Oil Co. No. 5 Herndon, NE SE NW sec. 22-21-15. Fsg. for 7-in. at 1,-100 ft.; cmtd. 7-in. 1,220 ft.; W.O.C.S.
W. J. Hunter et al No. 1 Stoer, NW SW NE sec. 10-15-15. Drlg. 3,492 ft.
F. L. Luckett No. 1 Connell, SW NE sec. 10-20-15. 6-in. cmtd. 2,174 ft.; T.D. 2,203 ft.; prep. to test.
Tom Pappas No. 2 Spell, SW sec. 28-21-15. Drk.
H. E. Philp No. 1 Fuller, NE cor. sec. 26-22-15. T.D. 1,034 ft.; W.O.
W. L. Porter No. 1 Terbune, sec. 15-21-16. Drk.

LEGAL

Department of the Interior, U. S. Land Office, Las Cruces, New Mexico. Notice is hereby given that the W½ W½ Sec. 24, W½ NW¼, SE¼ NW¼ Sec. 25, T. 26 S., R. 36 E., N.M.P.M., 280 acres, in the Eaves oil and gas field, New Mexico, is offered to the responsible qualified bidder of the highest bonus per acre for lease under Section 17 of the act of February 25, 1920 (41 Stat., 437), as amended by the act of August 21, 1935 (49 Stat. 674), at the royalty rate scale in the lease form shown in Circular 1386, at a sale to be held in the United States Land Office, Las Cruces, New Mexico, at 10 o'Clock, A.M., May 18, 1937. The minimum bid which will be accepted is $1.00 per acre. The land will be offered as a single unit. The successful bidder must deposit on the date of the sale a certified check on a solvent bank, or cash, for one-fifth of the amount and file the showing of qualifications to receive a lease required by Section 7 of Circular 1386. The remainder of the bonus bid and the annual rental at the rate of $1.00 per acre must be paid prior to the issuance of the lease. The bidders are warned against violation of the provisions of Section 59 of the United States Criminal Code approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register.

Prairie River Synd. No. 1 Hutchinson, SW NW sec. 15-15-12. Drlg. 7,563 ft.
Rodgers et al No. 1 Thompson, NW SW SW sec. 11-20-15. Cmtd. 2,204 ft.; W. O.C.S.
Shreveport Oil Corp. No. 2-D Munslow, SE sec. 5-20-15. Drlg. 1,300 ft.
Simplex O. & G. Co. No. 11 Youree, NE SW sec. 7-20-14. 7-in. cmtd. 1,883 ft.; T.D. 1,893 ft.; W.O.C.S.
P. A. Singlust No. 2 Starr-Brown, SE sec. 28-20-16. Cg. S.W. sd.; T.D. 1,820 ft.; W.O.
Stanolind O. & G. Co. No. 121 Dillon, NE SE sec. 14-21-15. 10-in. cmtd. 88 ft.
Stanolind O. & G. No. 11 J. B. Slattery, NE NW sec. 27-21-15. T.D. 1,580 ft.; acidized; W.O.
J. J. Thompson No. 1 Gamm, NE SW NW sec. 35-21-15. Tstg. S.W.; S.D.; T.D. 2,225 ft.

Claiborne Parish

Gulf Ref. No. 1 Eva Bennett, SW sec. 31-21-4. Drlg. 4,555 ft.
Gulf Ref. No. 1 H. E. Patton, SE sec. 36-21-5. Drlg. 5,019 ft.
Gulf Ref. No. 2 H. E. Patton, 1,650 ft. N and W, SE cor. sec. 36-21-5. Drlg. 4,554 ft.
Gulf Ref. No. 3 H. E. Patton, SW NE SW sec. 36-21-5. Drlg. 4,063 ft.
Gulf Ref. No. 4 H. E. Patton, NW NE SW sec. 36-21-5. Drlg. 3,770 ft.
T. L. James No. 1 Patton Est., C N½ NE SE sec. 36-21-5. Drlg. 3,472 ft.
T. L. James No. 2 Patton Est., SW NE SW sec. 36-21-5. Drlg. 4,025 ft.
Love Pet. Co. No. 1 H. E. Patton, SE SW SE sec. 36-21-5. Drlg. 5,013 ft.
Love Pet. Co. No. 3 H. E. Patton, NE SW SE sec. 36-21-5. Drlg. 4,617 ft.
Lyons & Neely No. 1 Maggie Patton, C W½ NW SW sec. 31-21-4. Drlg. 4,311 ft.
Magnolia Pet. No. 1 H. E. Patton, NW SE SW sec. 36-21-5. M.I.M.
McMillan et al No. 1-A Maggie Patton, S½ NE SW sec. 31-24-4. Drlg. 5,183 ft.
L. O. McMillan No. 1 H. E. Patton, S½ SW NW sec. 36-21-5. 9-in. cmtd. 900 ft.
L. O. McMillan No. 1 Robert Vaughn, S½ NW NE sec. 36-21-5. 9-in. cmtd. 807 ft.; W.O.C.S.
E. T. Oakes No. 1 M. S. Patton, NE NW NE sec. 1-20-5. Drk.
Ray P. Oden No. 2 H. W. Patton, NW SE SE sec. 36-21-5. 10-in. cmtd. 681 ft.
Shreveport Oil Corp. No. 1 Edwards, NE sec. 16-20-5w. T.D. 20 ft.; S.D.
Standard Oil of La. No. 1 Baker, 660 S&E NW sec. 27-19n-7w. Drlg. 6,330 ft.
J. C. Tippett No. 1 H. E. Patton, 330 ft. N and E, SW SE sec. 36-21-5. R.U.
United Gas et al No. 1 W. Brown, sec. 1-19-6. Comp.; flw. 50 B.P.D.; T.D. 5,-984 ft.
United Gas No. 1 W. M. Dobbins, sec. 12-19-6w. O.W.D.D.; drlg. 5,747 ft.
P. W. Woodruff No. 2 H. E. Patton, C N½ SW NE sec. 31-24-4. Drlg. 4,135 ft.

De Soto Parish

Benedum & Trees No. 1 Clifton, NE NW sec. 33-13-12. T.D. 5,004 ft.; fsg. for D.S.
Grogan Oil Co. No. 1 Ramsey, sec. 36-11-11. T.D. 3,027 ft.; washed to bttm. and twisted off D.P.; fsg.; oil showings.
Rio Rajo Oil Co. No. 7 Prudhomme, SE cor. sec. 20-12-11. T.D. 2,716 ft.; tstg.; 2,000,000 ft. gas; S.D.; W.O.
Stillers et al No. 2 Jenkins, 330 ft. S and W, NE SE NW sec. 35-13-12. S.D. 2,503 ft.; fuel.

Grant Parish

Grantland Prod. Co. No. 2 Swope-Labrat, NE SW SE sec. 18-9-1e. Comp.; pmp. 30 B.P.D.; T.D. 1,687 ft.
H. M. S. Corp. No. 1 McNeely, sec. 21-6n-3w. 20-in. csg. 20 ft.
Harvey Weir No. 1 Calfax Bk. & Tr. Co., NE NW sec. 15-7n-3w. Drk.
Tri State Lse. & Dev. Co. No. 1 Edenborn Est., NE SE SE sec. 13-7-4w. T.D. 3,000 ft.; S.D.

Jackson Parish

G. W. Zeigen No. 5 La. Cen. Lbr. Co., sec. 13-14-2w. S.D. 3,150 ft.; (cor.).

LaSalle Parish

Air Lift Oil Corp. No. 9 Urania, NE NW SE sec. 18-10-2e. Comp.; pmp. 40 B.P. D.; T.D. 1,523 ft.
Air Lift Oil Co. No. 10 Urania, NE NW NE sec. 18-10-2e. Comp.; pmp. 75 B.P. D.; T.D. 1,515 ft.
Air Lift Oil Co. No. 11 Urania, NE NW NE sec. 18-10-2e. Comp.; pmp. 30 B.P. D.; T.D. 1,517 ft.
Air Lift Oil Corp. No. 12 Urania, NE NW NE sec. 18-10-2e. T.D. 1,508 ft.; rng. csg.
Placid Oil No. 4 Wimberry, C sec. 18-10-2e. Comp.; pmp. 15 B.P.D.; T.D. 1,519 ft.
T. & J. Oil Co. No. 1 Urania, NE NW SW sec. 19-10-2e. Drlg. 815 ft.
Oil Operators Inv. & G. Co. No. 1 Zemgiro, SW SE NW sec. 23-9-1e. Drlg. 1,200 ft.

Lincoln Parish

Glassell & Glassell No. 1 Gray, SE sec. 16-20-3e. Loc.
Lyons & Neely No. 1 W. H. Patton, N½ NW NW sec. 6-20-4. R.U.
E. T. Oakes-H. D. Easton and Evans No. 1 R. L. Sanderson, NW SE NW sec. 36-18-1w. Drk.

Morehouse Parish

So. Carbon Co. No. 3 Miles, NE sec. 36-21-4e. Tstg. S.G.; T.D. 2,402 ft.; S.D.; W.O.

Red River Parish

Gulf No. 26 Kennedy, NW sec. 24-13-11. Comp.; pmp. 50 B.P.D.; T.D. 2,554 ft.
Gulf No. 27 Kennedy, SW sec. 24-13-11. R.U.
Gulf No. 40 E. T. Robinsons, SW sec. 24-13-11. 7-in. cmtd. 2,485 ft.
Perla Oil Co. No. 1 DeLong, 330 ft. S and E. C sec. 23-12-10. Fsg. 2,800 ft.
J. D. Wadley No. 1 McClelland, SE NE sec. 24-13-11. Drlg. 800 ft.

Sabine Parish

Earl F. Fox No. 1 Blankenship, NE SE NW sec. 13-9-12. Cmtd. 6-in. 3,220 ft.; T.D. 3,412 ft.; W.O.C.S.
Odell Henson No. 11 Long Bell, SE NE NW sec. 5-8-13. S.D. 40 ft.
Kirk-Green-Way Inc. No. 1 Whitney Corp., NW NE sec. 8-9-13. 9-in. cmtd. 5,176 ft.; T.D. 5,180 ft.; W.O.C.S.
Producers O. & G. Co. No. 5 Edwards Est., SW NW SW sec. 29-9-13. Drk.
Prod. O. & G. Co. No. 1 Lynch, SW NE SW sec. 29-9-13. Pumped off; acid; T.D. 1,608 ft.
W. G. Ray Drlg. Co. No. 3 Looney, NW SE NE sec. 30-9-13. T.D. 2,111 ft.; tstg. after acid.
A. C. Scott No. 1 Bowman-Hicks Lbr. Co., sec. 23-9-13. O.W.D.D.; T.D. 3,070 ft.; arg. test.
Willis & Dowden No. 1 Lynch, SW NE SW sec. 29-9-13. T.D. 1,608 ft.; arg. tst.

Tensas Parish

Ark. La. Gas Co. No. 1 Baker, NE NW NE sec. 7-11-10. Drld. as core test but well blew out with gas at T.D. 465 ft. and bridged; arg. set csg.
H. M. Jones et al No. 1 Chicago Mill & Lbr. Co., NE sec. 30-12n-10e. T.D. 798 ft.; blew out after stng. 8 mo.; gauging 30,000,000 ft. gas and 10,000 bbls. wtr.; drld. out bridge and well blew out again and bridged over; T.D. 798 ft.; W.O.

Webster Parish

W. H. Bass Drlg. Co. No. 1 T. Crichton, C NW NW sec. 21-20-9. Drlg. 3,013 ft.
Magnolia No. 2 D. G. Cox, SW SE NE sec. 22-21-10. Drlg. 4,985 ft.
Magnolia Pet. Co. No. 2 A. J. McCook, SW sec. 22-21-10. Drk.
Ohio Oil Co. No. 1 S. P. D. Covle, NW SE SW sec. 23-21-10. Drlg. 7,118 ft.
Ohio Oil Co. No 2 R. M. Coyle, SE sec. 22-21-10. Drlg. 6,433 ft.
Ohio No. 1 S. P. D. Coyle and W. Cox, SW SW SE sec. 23-21-10. Drk.
Ohio Oil No. 1 T. Crichton, Acct. No. 2, SE NE sec. 21-21-10. Drk.
Ohio Oil No. 1 L. M. Gardner, NE sec. 22-21-10. Drlg. 2,315 ft.
Ohio Oil Co. No. 2 A. H. Gray Acct. No. 2, NW sec. 26-21-10. Drlg. 7,384 ft.
Ohio Oil Co. No. 2 A. J. Hodges, NE NW SW sec. 23-21-10. Drlg. 7,410 ft.
Ohio No. 7-B R. L. Holloway, 586 ft. N, 756 ft. E line, sec. 23-21-10. Drk.
L. R. Skidmore No. 1 Barnett, NE NW SW sec. 29-17-9. Drlg. 3,800 ft.
Standard Oil Co. of La. No. 1 E. Firdecker, 1,320 ft. E, 1,316 ft. S, SW cor. sec. 2-17n-9w. T.D. 7,202 ft.; perf. and tstg.
Standard Oil of La. No. 1 E. L. Stewart, SE SE SE sec. 32-21-10. Drlg. 581 ft.
United Gas No. 2 Davis, 660 ft. S and E, NW cor. sec. 23-21-10. Comp.; flw. 323 bbls. dist. and 5,000,000 ft. gas; T.D. 8,305 ft.; P.B. 8,551 ft.
Woodley Pet. Co. No. 4-B Gray, NE NE sec. 27-21-10. Drlg. 7,345 ft.

SOUTH LOUISIANA FIELDS

Ansela Butte—St. Martin Parish

Y. D. Spell No. 3 Begnaud, sec. 117-9s-5e. Cg. sd. 1,385 ft.

Bayou Cocotrie—Terrebonne Parish

Shell Pet. Corp. No. 1 Pelican, sec. 35-17s-15e. Drlg. sd. and sh. 5,278 ft.

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 37 Watkins, sec. 8-12s-12w. T.D. 4,433 ft.; make D.S.T.

Caillou Island—Terrebonne Parish

Texas Co. No. 1 Caillou Island, sec. 18-23s-20e. Loc.
Texas Co. No. 1 L.L.&E., sec. 18-23s-20e. Drk.
Texas Co. No. 3 State, sec. 19-23s-20e. Drlg. sd. 6,182 ft.
Texas Co. No. 47 State, sec. 18-23s-20e. S.D. 4,529 ft.; salt; 7-in. csg. 4,472 ft.; drlg. plug; no report.

Charenton—St. Mary Parish

Pan American Prod. Co. No. 3 Laws Realty Co., sec. 25-12s-9e. Cg. sh. 7,785 ft.
Pan American Ref. Co. No. 4 Laws Realty Co., sec. 30-13s-10e. Drk.
Pan American Prod. Co. No. 1 South Coast Corp., sec. 30-13s-10e. Cg. sh. 7,-465 ft.

Choctaw—Iberville Parish

Standard Oil Co. No. 9 Myrtle Grove, sec. 53-9s-11e. T.D. 3,455 ft.; P.B. 3,160 ft.; to sdtrk.; drlg. sdy. sh. 2,117 ft.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 18 School Ld., sec. 16-14s-13w. Drlg. sh. 976 ft.
Magnolia Pet. Co. No. 19 Cameron Meadows, sec. 16-14s-13w. Drlg. sh. 4,910 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 15 Community, sec. 29-10s-2w. Drlg. sh. 5,262 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 5 State, sec. 5-22s-16e. 10¾-in. csg. 1,505 ft.; drlg. sdy. sh. 4,845 ft.

Garden Island—Plaquemines Parish

Texas Co. No. 23 State, sec. 37-23s-33e. 18⅝-in. csg. 541 ft.; top salt 5,933 ft.; T.D. 5,965 ft.; P.B. and sdtrkd.; T.D. 5,730 ft.; 7⅝-in. csg. 4,290 ft.; I.P. 225 B.P.D.; ⅝-in. ck.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 3 Airhart, sec. 14-9s-8w. Drk.
Fohs Oil Co. No. 1 First Natl. Bank, sec. 13-9s-8w. T.D. 7,158 ft.; P.B. to 6,980 ft.; sdtrkd.; drld. to 7,046 ft.; tstg.
Texas Co. No. 12 Nickerson, sec. 1-9s-8w. T.D. 6,718 ft.; 7-in. csg. 6,704 ft.; I.P. 40 B.P.H.; ⅜-in. ck.
Union Sulphur Co. No. 12 Barbe, sec. 1-9s-8w. T.D. 9,101 ft.; blew out; caught fire; cratered; cleaning up after blowout; S.D.; abd.
Union Sulphur Co. No. 14 Barbe, sec. 1-9s-8w. T.D. 6,738 ft.; 7-in. csg. 6,723 ft.; tstg.
Union Sulphur Co. No. 15 Barbe, sec. 1-9s-8w. Loc.
Union Sulphur Co. No. 7 Castle, sec. 14-9s-8w. Drlg. sd. 5,971 ft.
Union Sulphur Co. No. 6 Mayo-Reeves, sec. 12-9s-8w. Drk.
Union Sulphur Co. No. 12 Powell Lbr. Co., sec. 12-9s-8w. 10¾-in. csg. 1,601 ft.; T.D. 6,714 ft.; rmg.

Hackberry—Cameron Parish

Burton-Sutton Oil Co. No. 1-A Duhon, sec. 22-12s-10w. Drk.
W. T. Burton No. 1 Kennedy, sec. 22-12s-10w. Drlg. sh. 3,474 ft.
W. T. Burton No. 2 R. Vincent, sec. 22-12s-10w. Drk.
W. T. Burton No. 1 J. J. Roboria, sec. 11-9s-2w. R.U.
Gulf Oil Corp. No. 23 Erwin, sec. 12-12s-10w. T.D. 5,505 ft.; tstd. mud and S.W on D.S.T.
Independent Oil Co. No. 1 Sanner, sec. 29-12s-10w. T.D. 1,775 ft.; 5-in. csg. 1,-775 ft.; swbd. S.W.; S.D.
Stanolind O. & G. Co. No. 1 J. H. Duhon, sec. 27-12s-10w. Old T.D. 4,627 ft.; drlg. sdtrkd. hole sh. 4,886 ft.
Stanolind O. & G. Co. No. 25-B Gulf Land fee, sec. 15-12s-10w. 20-in. csg. 158 ft.; drlg. sh. and L. 4,934 ft.
Stanolind O. & G. Co. No. 1 Little, sec. 28-12s-10w. Run 109 ft. 16-in. csg.; drlg. sh. 2,767 ft.
Stanolind O. & G. Co. No. 18 School Land, sec. 16-12s-10w. T.D. 5,996 ft.; P.B. and sdtrkd.; T.D. 5,926 ft.; 7-in. csg. 5,912 ft.
Texas Co. No. 21 State, sec. 12-12s-9w. 10¾-in. csg. 2,126 ft.; drlg. sd. 7,193 ft.

Iowa—Jefferson Davis Parish

Shell Pet. Corp. No. 23 Heyd, sec. 13-9s-7w. T.D. 4,428 ft.; 5-in. csg. 4,390 ft.; tstd. gas and dist.; cutting and pulling screen.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1 Banta, sec. 40-13s-9e. Drlg. sh. 4,971 ft.
Herton Oil Co. No. 8 Banta, sec. 40-13s-9e. Drlg. 1,480 ft.
Herton Oil Co. No. 6 Carter, sec. 38-13s-9e. Drlg. sh. 1,460 ft.
Teche Oil Co. No. 1 LeBourgeois, sec. 59-13s-8e. 10-in. csg. 1,400 ft.; T.D. 7,006 ft.; abd.

Jennings—Acadia Parish

W. T. Burton No. 1 Robira, sec. 41-9s-2w. T.D. 5,238 ft.; fsg.
Alfred Glassell No. 1 R. McFarlain, sec. 41-9s-2w. R.U.
Lake City Oil Co. No. 2 Jennings Synd., sec. 46-9s-2w. T.D. 4,248 ft.; 7-in. csg. 4,248 ft.
T. C. Markly No. 1 Gourney, sec. 42-9s-2w. Old T.D. 4,280 ft.; skidded drk.; S.D.; salt 5,049 ft.
S. Rhoden et al No. 1 Iowa-Jennings, sec. 45-9s-2w. T.D. 3,916 ft.; run 6⅝-in. csg.
Stanolind O. & G. Co. No. 18 Houssiere-Latrielle, sec. 47-9s-2w. 8⅝-in. csg. 5,-358 ft.; T.D. 7,072 ft.; 6⅝-in. csg. 7,-005 ft.
Superior Oil Prod. Co. No. 2 Eunice-Crowley, sec. 12-9s-2w. Drlg. salt 4,453 ft.
Superior Oil Prod. Co. No. 2 Iowa-Jennings, sec. 41. Drk.
Superior Oil Prod. Co. No. 2 Jennings-Heywood, sec. 41-9s-2w. 11¾-in. csg. 1,-465 ft.; drlg. sh. 6,029 ft.
Superior Oil Prod. Co. No. 3 Jennings, sec. 42-9s-2w. Drlg. sh. 4,528 ft.
Superior Oil Prod. Co. No. 2 Lecklet, sec. 42-9s-2w. 7-in. csg. 7,041 ft.; top salt 7,600 ft.; P.B. 6,877 ft.; perf. csg. 5,780-90 ft.; I.P. 128 B.P.D.; 12/64-in. ck.
Superior Oil Prod. Co. No. 3 Wm. Lecklet. Drlg. sh. 4,263 ft.
Superior Oil Prod. Co. No. 4 Lecklet, sec. 42-9s-2w. Drlg. sd. and clay 1,126 ft.

Lafitte—Jefferson Parish

Texas Co. No. 6 Lafitte, sec. 20-17s-24e. Drlg. sdy. sh. 10,224 ft.
Texas Co. No. 2 Milling, sec. 20-17s-24e. Dredging canal.
Texas Co. No. 7 Rigolet, sec. 29-17s-24e. Drlg. sdy. sh. 5,405 ft.
Texas Co. No. 1 State-Bayou Norman, sec. 28-17s-24e. Drlg. sh. and L. 6,794 ft

Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre-State, T.D. 10,959 ft.; D.S. stuck; shot at 8,113 ft.; P.B. and sdtrkd.; drlg salt 2,706 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 15 State, sec. 17-23s-18e. Drlg. sdy. sh. 5,948 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 6 Lafourche, sec. 11-8s-25e. T.D. 6,390 ft.; perf. csg. 6,371-77 ft.; showed S.W. and gas.

Leesville—Lafourche Parish

Gulf Oil Corp. No. 1-A City of New Orleans, sec. 35-21s-22e. T.D. 5,831 ft.; sdtrkd. 4,831 ft.; T.D. 5,975 ft.; rmg.
Texas Co. No. 59 L.L.&E., sec. 27-21s-27e. Drlg. sh. 4,928 ft.
Texas Co. No. 62 Leesville, sec. 29-17s-24e. T.D. 4,015 ft.; 7⅝-in. csg. 4,008 ft.; I.P. 482 B.P.D.; ¼-in. ck.

Lockport—Cameron Parish

Magnolia Pet. Co. No. 6 Freeberg, sec. 9-10s-9w. T.D. 4,680 ft.; rmg.

New Iberia—Iberia Parish

Wm. Hellis No. 8 Bernard, sec. 54-12s-7e. Drlg. sh. and L. 2,101 ft.
Wm. Hellis No. 4 Bullock & Burke, sec. 25-12s-7e. T.D. 4,505 ft.; P.B. and sdtrk.; T.D. 4,401 ft.; P.B. and sdtrkd.; T.D 4,548 ft.; 7-in. csg. 3,722 ft.; swbg. 300 bbls. daily.
Wm. Hellis No. 3 Schwing, sec. 57-12s-7e. Drlg. sh. 4,846 ft.
Texas Co. No. 2 Duhe, sec. 26-12s-7e. T.D. 4,683 ft.; P.B. 4,100 ft.
Texas Co. No. 3 Bryant, sec. 25-12s-7e. Spudded.
Texas Co. No. 5-B Hanzen, sec. 54-12s-7e. T.D. 4,736 ft.; 7⅝-in. csg. 4,678 ft.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 2 Watkins, sec. 4-6s-5e. R.U.

Roanoke—Jefferson Davis Parish

Humble O. & R. Co. No. 8-B Devilbiss, sec. 11-9s-4w. Drlg. sh. and L. 6,008 ft.

Sorrento—Ascension Parish

Sorrento Oil Co. No. 1 Bernard, sec. 9-19s-14e. Drlg. sh. 6,353 ft.
Tri-State Dev. Co. No. 1 Duplessis, sec. 69-10s-2e. Drk.

South Jennings—Jeff Davis Parish

Stanolind-Amerada Pet. Corp. No. 2 Calcasieu Natl. Bank, sec. 10-10s-3w. M.I.R.

Starks—Calcasieu Parish

J. R. Turnbull No. 1 Industrial Lbr. Co. sec. 20-9s-12w. S.D. 6,433 ft.

St. Martinsville—St. Martin Parish

Tide Water Oil Co. No. 1-B Smedes, sec. 57-11s-6e. Drlg. 240 ft.
Tide Water Oil Co. No. 3 Smedes, sec. 57-11s-6e. Drlg. sh. 1,710 ft.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 840 fee, sec. 29-9s-10w. T.D. 3,740 ft.; P.B. 3,316 ft.; R.U. to pmp.
Union Sulphur Co. No. 842 fee, sec. 29-9s-10w. T.D. 5,475 ft.; P.B. and sdtrkd.; S.D. 5,286 ft.
Union Sulphur Co. No. 844 fee, sec. 29-9s-10w. Core 5,182 ft.

Tepetate—Acadia Parish

Continental Oil Co. No. 2-D Homeseekers Dev. Co., sec. 29-7s-2w. Cg. sh. and sd. 8,307 ft.
Continental Oil Co. No. 1 Vincent and Welch, sec. 30-7s-2w. Drk.
Continental Oil Co. No. 7-A L. L. Welch, sec. 28-7s-2w. T.D. 8,309 ft.; I.P. 53 B. P.D.; ¼-in. ck.

Valentine—Lafourche Parish

Pan American Prod. Co. No. 3 Harang, sec. 8-17s-20e. T.D. 7,718 ft.; D.P. stuck. fsg.
Pan American Prod. Co. No. 4 Harang, sec. 8-17s-20e. T.D. 7,190 ft.; run csg.
Pan American Prod. Co. No. 5 Harang, sec. 8-17s-20e. 16-in. csg. 235 ft.; W.O.C.

Vinton—Calcasieu Parish

Woodley Pet. Co. No. 1 Gray, sec. 32-10s-12e. R.U.

White Castle—Calcasieu Parish

Shell Pet. Corp. No. 4 Shingle, sec. 12-11s-12e. T.D. 8,903 ft.; P.B. 8,717 ft.; milling out of csg. at 8,027 ft.

S. LOUISIANA WILDCATS

Acadia Parish

H. E. Dalton No. 1 Setting, sec. 17-7s-1w. T.D. 5,426 ft.; left 900 ft. of D.S. in hole.
Humble O. & R. Co. No. 1 Nordyke, sec. 23. 9⅝-in. csg. 6,843 ft.; abd. 10,056 ft.
Humble O. & R. Co. No. 1 Floyd Williams, sec. 34-8s-1e. Drk.

Allen Parish

Humble O. & R. Co. No. 3 Bel, located in cratered hole, sec. 26-6s-7w. 10¾-in. csg. 165 ft.; T.D. 2,870 ft.; 7-in. csg. 2,766 ft.; shot well; failed to stop flwg. S.W.; S.D.

Avoyelles Parish

Coastal Minerals No. 1 Purdy-Hess, sec. 25-2n-3e. Drk.; S.D.; high wtr.
George Conover No. 1 Purdy-Hess, sec. 36-2n-3e. Drk.
Frost Oil Co. No. 1 Hines Lumber Co., sec. 3-3n-4e. Drk.

Calcasieu Parish

D. D. Oil Co. No. 1 Lutcher Moore, sec. 11-8s-13w. T.D. 8,447 ft.; D.S. stuck; fsg.

Cameron Parish

Magnolia Pet. Co. No. 1-A Dobbortine, sec. 9-15s-14w. 8⅝-in. csg. 617 ft.; drlg. sh. 7,135 ft.
Southern Sulphur Co. No. 2 State, sec. 29-15s-10w. S.D. 2,611 ft.
Union Sulphur Co. No. 1 J. O. Hebert, sec. 18-12s-8w. Drlg. rk. 7,647 ft.

Cameron Parish—Gulf of Mexico

Superior Oil Prod. Co. et al No. 1 State-Gulf of Mexico, 3,800 ft. W, 6,200 ft. S of SE cor. of irregular sec. 4-15s-8w. Loc.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Vingnes, sec. 40-8s-2e. T.D. 6,690 ft.; D.S. stuck.
Cavalier Oil Co. No. 1 E. B. Young, sec. 52-4e-1w. Drlg. 610 ft.

Evangeline Parish

Belle Chenney Springs Oil Co. No. 1 Belle Springs Land Dev. Co., sec. 10-2s-1w T.D. 2,214 ft.; re-R.U.; drlg. 1,380 ft. in sdtrkd. hole.
Continental Oil Co. No. 1 Pardee Lbr. Co., sec. 18-4s-1w. Drlg. sh. 8,186 ft.

Iberia Parish

Jefferson Lake Oil Co. No. 414 State Lake Pigneur, Twp. 12s-5e. Top salt 990 ft.; set 10¾-in. csg. 5,095 ft.; top oil sd. 6,915 ft.; 7-in. csg. 6,930 ft.; cg. bkn. sd. showing oil 6,967 ft.

Jefferson Parish

Louisiana Crusader Oil Corp. No. 1 Langley, sec. 36-7s-5w. Drlg. sh. 6,034 ft.
Triangle Oil Co. No. 1 Conroe, sec. 125-12s-11e. T.D. 2,461 ft.; drill stem stuck.

Jefferson Davis Parish

Shell Pet. Corp. No. 1 Joe Sturdivant, sec. 25-10s-4w. 10¾-in. csg. 2,616 ft.; 7-in. csg. 8,630 ft.; perf. csg. 8,540-50 ft.; flwd. 2½ bbls. of dist. per hr.; 16/64-in. ck.; T.P. 3,000 lbs.; C.P. 2,750 lbs.; P.B. 8,480 ft.; tstd. S.W. 8,505-8,485 ft.; cmtd. off perf.; drld. out to 8,560 ft.; comp.; for gas well; flwg. est. 24 bbls. of S.W.
Stanolind O. & G. Co. No. 2-B Calcasieu Natl. Bank, sec. 28-7s-3w. M.I.R.
Stanolind O. & G. Co. No. 1 United Life Accident Co., sec. 16-11s-5w. 13⅜-in. csg. 2,142 ft.; drlg. sh. 9,798 ft.

Lafourche Parish

Fohs Oil Co. No. 1 State Lake, sec. 65-17s-19e. Drlg. sh. and L. 7,013 ft.
Wm. Hellis No. 1 City of New Orleans, sec. 19-23s-23e. T.D. 7,607 ft.; 7-in. csg. on bttm.; prep. to test.

Livingston Parish

Coastline Oil Co. No. 1 Addison Trust Co., sec. 7-7s-3e. Drk.

Plaquemines Parish

Gulf Oil Corp. No. 1 Bay-Adams sec. 32-52s-19. Drlg. sh. 4,295 ft.
Tide Water Oil Co. No. 3 Manhattan Fruit Co., sec. 26-21s-30e. Dredging canal.

Rapides Parish

C. L. Decker No. 1 Lee Lbr. Co., sec. 21-5n-3e. Drk.
R. D. Webb No. 1 A. M. Brasher, sec. 22-4n-2w. Fsg. 5,236 ft.

St. Bernard Parish

Gulf Oil Corp. No. 1 Lake Lery, sec. 28-14s-14e. Drlg. sh. 5,965 ft.
Southern Sulphur Co. No. 2 State Lake Borgne, sec. 38-14s-15e. 13⅜-in. csg. 303 ft.; S.D. 3,170 ft.

St. Charles Parish

Amerada Pet. Corp. and La. Ld. & Expl. Co. No. 1 State, sec. 13-15s-20e. Cmtd. surf. csg.

St. Landry Parish

Gulf Oil Corp. No. 1 Haas & Hirsch, sec. 12-6s-7e. Loc.
Shell Pet. Corp. No. 1 Boagni, sec. 48-8s-4e. 10¾-in. csg. 2,521 ft.; T.D. 7,318 ft.; fsg.

St. Martin Parish

Geo. E. Lilly et al No. 1 Martin, sec. 32-9s-7e. Drlg. 212 ft.
Texas Co. No. 9 St. Martin, sec. 21-8s-7e. 18⅝-in. csg. 106 ft.; top salt 8,848 ft.; T.D. 8,858 ft.; waiting on tbg.
Texas Co. No. 3 State, sec. 14-10s-9e. 18-in. csg. 101 ft.; T.D. 7,761 ft.; fsg.

St. Mary Parish

Texas Co. No. 1 Horse Shoe Bayou, sec. 40-17s-9e. T.D. 10,975 ft.; 7⅝-in. csg. cmtd. on bttm.; drlg. sdy. sh. 11,627 ft.
Texas Co. No. 1 State-Bateman Lake, sec. 21-16s-12e. Drlg. sd. and sh. 8,890 ft.

Terrebonne Parish

Humble O. & R. Co. No. 1 H. J. Ellender, sec. 23-19s-19e. 9⅝-in. csg. 8,735 ft.; drlg. sh. 11,852 ft.

TEXAS

Week Ending April 24

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 11-X Austin College, Wm. Henry Sur. T.D. 4,143 ft.; abd.
Humble O. & R. Co. No. 11-B Hardy, J. E. Groce Sur. R.U.
Humble O. & R. Co. No. 20-X, R. J. Paine, W. C. White Sur. T.D. 4,120 ft.; I.P. 120 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 21-X R. G. Paine, W. C. White Sur. R.U.

Hastings—Brazoria County

A. W. Crosby No. 1 J. H. Ross, S. McKissick Sur. Drlg. sh. 3,327 ft.
W. L. Goldston et al No. 1 Thomas Ross, S. McKissick Sur., Blk. F. T.D. 6,080 ft.; I.P. 615 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 3-B Brown, Perry & Austin Sur. T.D. 6,080 ft.; W.O.C.
Humble O. & R. Co. No. 1 C. W. French, Lot 8, B.B.B.&C. Sur. T.D. 6,110 ft.; I.P. 6 B.P.H.; ¼-in. ck.
Humble O. & R. Co. No. 1 Southwestern University, Wm. Henery Sur. T.D. 6,095 ft.; tstg.
Navarro Oil Co. No. 2 Callahan, Lot 5, H.T.&B. Sur. No. 29. T.D. 6,000 ft.; I.P. 646 B.P.D.
Stanolind O. & G. Co. No. 3-A Avitts, H.T.&B. Sur. No. 29. 16-in. csg. 90 ft.: drlg. sh. 4,531 ft.
Stanolind O. & G. Co. No. 2 Frank M. Berger, H.T.&B. Sur. No. 37. 10¾-in. csg. 1,657 ft.; T.D. 6,050 ft.; 7-in. csg. 5,799 ft.
Stanolind O. & G. Co. No. 3 C. H. Blount, B. T. Masterson Sur. T.D. 6,080 ft.; 7-in. csg. 6,000 ft.
Stanolind O. & G. Co. No. 4 Floyd Brown, H.T.&B. Sur. No. 29. Drk.
Stanolind O. & G. Co. No. 1 Mary Condon, H.T.&B. Sur. No. 29. Drk.
Stanolind O. & G. Co. No. 9 Drake, H.T.& B. Sur. No. 36. 16-in. csg. 90 ft.; T.D. 6,110 ft.
Stanolind O. & G. Co. No. 2 McKibben, Lot 16, H.T.&B. Sur. No. 29. R.U.
Stanolind O. & G. Co. No. 1 Massey Condon, Lot 20, H.T.&B. Sur. No. 29. Drlg. L. 2,945 ft.
Stanolind O. & G. Co. No. 2 Condon, Lot 11, H.T.&B. Sur. Drlg. L. 5,341 ft.
Stanolind O. & G. Co. No. 3 Law, H.T.&B. Sur. No. 36. 16-in. csg. 90 ft.; cg. sd. 6,076 ft.
Stanolind O. & G. Co. No. 2 Steve Paul, A. C.H.&B. Sur. No. 2. T.D. 6,100 ft.; 7-in. csg. 5,666 ft.; I.P. 563 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 3 Steve Paul, A. C.H.&B. Sur. Cg. sh. and sd. 6,072 ft.
Stanolind O. & G. Co. No. 4 Steve Paul, A.C.H.&B. Sur. No. 2. Drlg. 154 ft.

Lockridge—Brazoria County

Gulf Oil Corp. No. 1 Fred Reiss, J. W. Hall Sur. T.D. 8,164 ft.; rng. 7,000 ft. of 9⅝-in. csg.; P.B. to 2,400 ft.; sdtrkd.; 9⅝-in. csg. 5,000 ft.; T.D. 8,458 ft.
Gulf Oil Corp. No. 2 Gibson, J. W. Hall Sur. R.U.
Gulf Oil Corp. No. 1-A G. L. Wood et al, Thomas Alsberry Sur. No. 4. Abst. No. 2. 13⅜-in. csg. 1,431 ft.; T.D. 6,376 ft.; make D.S.T.
Gulf Oil Corp. No. 3 Wilkes Smith, J. W. Hall Sur. Drlg. sh. 3,850 ft.
Shell Pet. Corp. No. 3 Ramsey State Farm, J. W. Hall Sur. No. 11. 10¾-in. csg. 1,390 ft.; drlg. sh. and shells 4,500 ft.

Manvel—Brazoria County

Burton Drlg. Co. No. 2 Baldwin, E. Little Sur. T.D. 1,130 ft.; W.O.C.
Burton Drilling Co. No. 1 J. Kroll, center Lot 101, A.C.H.&B. Sur. No. 92. T.D. 4,063 ft.; abd.
R. Olsen No. 2 Nichols, H. N. Little Sur. T.D. 4,100 ft.; W.O.C.
E. A. Stone No. 1 Nichols, E. Little Sur. Drk.
Texas Co. No. 16-A W. T. Belcher, H. N. Little Sur. Drk.
Texas Co. No. 24 Houston Oil Field Assn., Lot 16, A.C.H.&B. Sur. T.D. 5,710 ft.; 7-in. csg. 5,685 ft.; I.P. 501 B.P.D.; ¼-in. ck.
Texas Co. No. 25 Houston Oil Field Assn., A.C.H.&B. Sur. No. 91. Drk.
Texas Co. No. 4 Lemmer, S. Spraggins Sur. Drk.

Old Ocean—Brazoria County

Harrison and Abercrombie No. 4 Bernard River Ld. and Development Co., Charles Breen Sur. 13⅜-in. csg. 1,405 ft.; drlg. sd. 5,729 ft.

Sandy Point—Brazoria County

Bunte O. & G. Co. No. 1 A. A. Sharp, Chester S. Gorbot Sur. Drk.
Bunte O. & G. Co.-Florence Investment Co. No. 1 Fite. Drlg. sh. 4,627 ft.
J. F. Driscoll No. 1 J. W. Fullet, Lavaca Navigation Sur. No. 3. Bldg. Drk.

Heyser—Calhoun—Victoria County

George Echols No. 4 Bennett, J. Galban Sur. T.D. 614 ft.; W.O.C.
Humble O. & R. Co.-Plymouth Oil Co. No. 13-B P. H. Welder, A. Sisneros Sur. Drk.
Humble O. & R. Co.-Plymouth Oil Co. No. 14-B P. H. Welder, A. Sisneros Sur. T.D. 5,491 ft.; I.P. 13 B.P.H.; ¼-in. ck.
Humble O. & R. Co. No. 10-A P. H. Welder, J. M. Rios Sur. T.D. 5,494 ft.; I.P. 11 B.P.H.; ⅞-in. ck.
Portilla Drlg. Co. No. 7 P. H. Welder, A. Sisneros Sur. Moving in.
Portilla Oil Co. No. 15-C P. H. Welder, A. Sisneros Sur. T.D. 5,444 ft.; I.P. 12 B.P. H.; ⅞-in. ck.

Anahuac—Chambers County

Gulf Oil Corp. No. 9 Knowles, W. T. Knowles Sur., H.&T.C. Sur. No. 48. Drk.
Gulf Oil Corp. No. 2 Pommer, sec. 40, H. &T.C. Sur. R.U.
Gulf Oil Corp. No. 5 Wilcox, sec. 48. H. &T.C. Sur. Drlg. sh. and L. 6,029 ft.
Gulf Oil Corp. No. 6 Wilcox, sec. 48. H. &T.C. Sur. T.D. 7,090 ft.; 7-in. csg. 7,052 ft.
Humble O. & R. Co. No. 12 Broussard, H.&T.C. Sur. No. 59. Drk.
Humble O. & R. Co. No. 12 Gripon, H.& T.C. Sur. No. 51. Drk.
Humble O. & R. Co. No. 7 G. C. Johnson, sec. 47, H.&T.C. Sur. T.D. 7,080 ft.; I.P. 24 B.P.H.; ¼-in. ck.
Humble O. & R. Co. No. 8 C. Johnson, sec. 48, H.&T.C. Sur. Drk.
Humble O. & R. Co. No. 10 Max Engles, sec. 50, H.&T.C. Sur. 9⅝-in. csg. 1,225 ft.; T.D. 7,114 ft.; W.O.C.
Humble O. & R. Co. No. 14 Tyrell, sec. 52, H.&T.C. Sur. T.D. 7,085 ft.; W.O.C.
Humble O. & R. Co. No. 15 W. C. Tyrell, H.&T.C. Sur. No. 52. Drk.
Humble O. & R. Co. No. 13-B White, J. McGahey Sur. Drk.
Humble O. & R. Co. No. 14-B White, J. McGahey Sur. Bldg. drk.
Humble O. & R. Co. No. 16 White, J. McGahey Sur. T.D. 7,128 ft.; W.O.C.

Barbers Hill—Chambers County

Superior O. & G. Co. No. 3 G. W. Baker, H Griffith Sur. Sh. 1,210 ft.; no report.
A. Weber et al No. 1 Zappe, Wm. Bloodgood Sur. T.D. 2,413 ft.; I.P. 185 bbls. fluid per day through ¼-in. ck.

Cotton Lake—Chambers County

Salt Dome Oil Co. No. 1-D Lawrence, 932 ft. W of No. 1-C, S. Barrow Sur. T.D. 6,525 ft.; 7-in. csg. 6,525 ft.

Seabreeze—Chambers County

Sun Oil Co. No. 1-A Broussard-Hebert, T. &N.O. Sur. No. 127. 13⅜-in. csg. 1,366 ft.; drlg. sh. and L. 4,755 ft.
Sun Oil Co. No. 1-B White, Wm. Mays Sur. 18⅝-in. csg. 1,226 ft.; T.D. 9,637 ft.; T.A.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1 Silva-Shadrack, Burney Sur. 10¾-in. csg. 1,158 ft.; drlg. sh. and shells 4,559 ft.

Big Creek—Fort Bend County

Barnett Pet. Corp. No. 2 J. H. P. Davis, B. Nickson Sur. Drlg. sh. 1,520 ft.
Gulf Oil Corp. No. 75 T. W. Davis, M. Young Sur. T.D. 3,135 ft.; to make D. S.T.

Blue Ridge—Fort Bend County

Telshaw-Reese and Echelson No. 1 Blakely, E. Drew Sur. R.U.
Texas Gulf Prod. Co. No. 16 Blakely, Lot 9, Blk. C. T.D. 4,605 ft.; P.B. 4,560 ft.

Boling—Fort Bend County

John Deering No. 1 J. M. Moore, Charles Bettner Sur. Drlg. sd. 5,095 ft.
Mack Hank Oil Co. No. 3-A J. R. Farmer, J. Scott Sur. Drlg. sh. 1,398 ft.
Mack Hank Oil Co. No. 5-C E. C. Farmer, J. Scott Sur. Drk.
H. M. Naylor No. 11 Gehr, S. Kennedy Sur. R.U.

Orchard—Fort Bend County

Gulf Oil Corp. No. 52 Moore, James Frazier Sur. Drlg. sh. 1,714 ft.
Gulf Oil Corp. No. 49 J. M. Moore, Germain Immg. No. 8, 13⅜-in. csg 2,522 ft.; T.D. 7,428 ft.; perf. csg.

High Island—Galveston County

Stanolind O. & G. Co. No. 1-B Cade, H. Denman Sur. Drlg. S.W. sd. 6,558 ft.
Stanolind O. & G. Co. No. 61 Cade, N. Fitzsimmons Sur. Drlg. sd. 5,365 ft.
Stanolind O. & G. Co. No. 15-A Smith, M. Dunman Sur. R.U.

Dickinson—Galveston County

Atlantic Ref. Co. No. 1 R. C. Roberts, P. G. Merritt Sur. Cg. sh. 7,950 ft.
Coast Pet. Corp. No. 6 Maco Stewart, W. K. Wilson Sur. Drlg. sd. and sh. 8,778 ft.
Diadem Oil Corp. of Texas No. 2 W. J. Way, E. P. Epperson Sur. T.D. 8,198 ft.; 6⅝-in. csg. 8,191 ft.; perf. csg. 8,058-62 ft.; tstd. S.W.; no pressure; pulling screen.
Diadem Oil Corp. of Texas No. 1 Pauline Frederick. Loc.
Humble O. & R. Co. No. 1 Kilgore, W. K. Wilson Sur. Drk.
Humble O. & R. Co. No. 15-A Maco Stewart, W. K. Wilson Sur. Drk.
Humble O. & R. Co. No. 8-B M. Stewart. W. Wilson Sur. Drk.
Humble O. & R. Co. No. 17-A Stewart, J. Sellers Sur. Cg. sdy. sh. 8,244 ft.
Humble O. & R. Co. No. 18-A Stewart, W. K. Wilson Sur. Cg. sh. 8,559 ft.
W. E. McKinney et al No. 3-A Galveston-Houston Elec. R.R., W. K. Wilson Sur. S.D. 8,200 ft.
Pure Oil Co. No. 1-B Sealy Hutchins, P. G. Merritt Sur. Drlg. sh. 5,175 ft.
Sinclair Prairie Oil Co. No. 1 W. Weems, W. K. Wilson Sur. Loc.
Stanolind O. & G. Co. No. 1 Dameani, W. K. Wilson Sur. T.D. 8,780 ft.; 7-in. csg. 8,712 ft.; I.P. 801 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 2 Dameani, W. K. Wilson Sur. R.U.
Stanolind O. & G. Co. No. 7 State, 13⅜-in. csg. 2,013 ft.; T.D. 7,749 ft.; blew out; hole bridged.
Turman Oil Co. and Maco Stewart No. 1 Stewart, W. K. Wilson Sur. R.U.

Greens Lake—Galveston County

Sun Oil Co. No. 8 Hughes, W. C. M. Baker

LEGAL

Department of the Interior, U. S. Land Office, Las Cruces, New Mexico. Notice is hereby given that the W½ and W½ SE¼ Sec. 15, T. 17 S., R. 32 E., N.M.P.M., 400 acres, Baish oil and gas field, New Mexico, is offered to the responsible qualified bidder of the highest bonus per acre for lease under Section 17 of the act of February 25, 1920 (41 Stat. 437) as amended by the act of August 21, 1935 (49 Stat. 674), at the royalty rate scale in the lease form shown in Circular 1386, at a sale to be held in the United States Land Office, Las Cruces, New Mexico, at ten oclock A.M., May 18, 1937. The minimum bid which will be accepted is $1.50 per acre. The land will be offered as a single unit. The successful bidder must deposit on the date of sale a certified check on a solvent bank, or cash, for one-fifth of the amount and file the showing of qualifications to receive a lease required by Section 7 of Circular 1386. The remainder of the bonus bid and the annual rental at the rate of $1.00 per acre must be paid prior to the issuance of the lease. The bidders are warned against violation of the provisions of Section 59 of the United States Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register.

Sur. T.D. 3,910 ft.; 7-in. csg. 3,890 ft.; tstd. S.W.; made squeeze job.

Batson—Hardin County

Bunte O. & G. Co. No. 1 Melhome, J. Melhome Sur. Drlg. 140 ft.

Silsbee—Hardin County

Republic Prod. Co.-Houston Oil Co. No. 9 Brooks, G. W. Brooks Sur. Drlg. sh. and L. 6,579 ft.

Republic Prod. Co.-Houston Oil Co. No. 11 Brooks, G. W. Brooks Sur. 10¾-in. csg. 1,441 ft.; T.D. 6,964 ft.; P.B. 5,683 ft.; to sdtrk.

Republic Prod. Co.-Houston Oil Co. No. 12 Brooks fee, G. W. Brooks Sur. Drlg. sh. 4,236 ft.

Sour Lake—Hardin County

Texas Co. No. 322 fee, S. Jackson Sur. T.D. 2,080 ft.; P.B. 2,076 ft.

Clinton—Harris County

Stanolind O. & G. Co. No. 1 D. A. Oates, C. Martinez Sur., Abst. 543; 9⅝-in. csg. 6,771 ft.; drlg. sdy. sh. 8,067 ft.; top gas sd. 8,063 ft.; T.D. 8,783 ft.; P.B. 8,673 ft.; flwd. gas and S.W. while circulating.

Fairbanks—Harris County

Amerada Pet. Corp.-Stanolind O. & G. Co. No. 1 W. Jacobs, Blk. 1, sec. 2, W.C.R.R. Sur. 10¾-in. csg. 1,430 ft.

Humble—Harris County

Texas Co. No. 273 Landslide, Robt. Dunman Sur. Drk.

Pierce Junction—Harris County

Gulf Oil Corp. No. 42 Taylor, J. Hamilton Sur. Drk.

South Houston—Harris County

Stanolind O. & G. Co. No. 2 Dist. No. 8. S.D. 4,600 ft.; P.B.

Stanolind O. & G. Co. No. 2, Dist. 9. 9⅝-in. csg. 1,407 ft.; drlg. sh. 2,507 ft.

Stanolind O. & G. Co. No. 2, District 21. 9⅝-in. csg. 1,438 ft.; W.O.C.

Stanolind O. & G. No. No. 2 District 22. Spudded.

Stanolind O. & G. Co. No. 2, Dist. No. 23. Bldg. drk.

Stanolind O. & G. Co. No. 2 Dist. 51, R.U.

Stanolind O. & G. Co. No. 5 Holland and Price, H.T.&B. Sur. No. 6. 13⅜-in. csg. 90 ft.; T.D. 4,030 ft.; P.B.; sdtrkd.; T.D. 4,000 ft.; 5½-in. csg. 3,917 ft.; I.P. 442 B.P.D.; ¼-in. ck.

Stanolind O. & G. Co. No. 2 C. P. Williams, H.T.&B. Sur. No. 6, Tr. 45. P.B. 1,950 ft.; W.O.C.

Stanolind O. & G. Co. No. 1 Worley H.T. &B. Sur. No. 6. Drlg. sh. 4,859 ft.

Tomball—Harris County

Humble O. & R. Co. No. 1-B E. W. Handy, J. Pruitt Sur. Drk.

Humble O. & R. Co. No. 3 Martens, G. Lamb Sur. Cg. sd. 5,575 ft.

Humble O. & R. Co. No. 1-B Murphy, J. Pruitt Sur. T.D. 5,579 ft.; run csg.

Humble O. & R. Co. No. 2-B Price-Holdereth, C. M. Pillott Sur. Drk.

Humble O. & R. Co. No. 1 Tomball Townsite, Unit 12, Wm. Hurd Sur. T.D. 5,579 ft.; W.O.C.

Kourey Drlg. Co. No. 2 Hillegeist, J. House Sur. S.D. 5,038 ft.

Texas Co. No. 2 Lewis, Sain Lewis Sur. Drlg. 1,202 ft.

Amelia—Jefferson County

Humble O. & R. Co. No. 1 A. Busceine, C. Blk. 3, C. Williams Sur. T.D. 6,780 ft.; 5½-in. csg. 6,774 ft.; I.P. 27 B.P.H.; ¼-in. ck.

Humble O. & R. Co. No. 1-B Ephlin, Lot 18, Blk. D, C. Williams Sur. Drlg. sh. 1,530 ft.

Humble O. & R. Co. No. 1-G Ephlin, Blk. E, Lot 4, Mayfair Subd., C. Williams Sur. T.D. 7,281 ft.; abd.

Humble O. & R. Co. No. 2 Industrial Invest Co., C. Williams Sur. T.D. 6,780 ft., 5½-in. csg. 6,777 ft.; I.P. 27 B.P.H.; ¼-in. ck.

Humble O. & R. Co. No. 1 T. W. Lawler, C. Williams Sur. Drk.

Humble O. & R. Co. No. 1-B M. I. Lefler, Unit 19, Blk. E, C. Williams Sur. T.D. 6,783 ft.; 5½-in. csg. 6,778 ft.; swbd. 6778 ft. perf. csg. 6,774-77½ ft.; swbg.

Humble O. & R. Co. No. 2-B M. I. Lefler, Lot D, C. Williams Sur. Drlg. sh. 5,280 ft.

Humble O. & R. Co. No. 1 A. L. Nolan, Blk. E, C. Williams Sur. S.D. 6,713 ft.

Humble O. & R. Co. No. 3 J. H. Phelan, C. Williams Sur. Drlg. sd. 6,745 ft.

Humble O. & R. Co. No. 3 Pinchback, C. Williams Sur. T.D. 6,778 ft.; oil sd.; set retainer; perf. 6,765-69 ft.; tstg.

Humble O. & R. Co. No. 1 G. Sims, C. Williams Sur. T.D. 6,780 ft.; 5½-in. csg. 6,776 ft.

Humble O. & R. Co. No. 1 Wm. Wohlfert, C. Williams Sur. R.U.

Humble O. & R. Co. No. 1 W. M. Wohlfert, C. Williams Sur. Drk.

Glenn H. McCarthy No. 4 Long, H. Williams Sur. T.D. 5,380 ft.; oil sd.; 7⅝-in. csg. 5,359 ft.; I.P. 411 B.P.D.; ¼-in. ck.

Glenn H. McCarthy No. 5 Longe, H. Williams Sur. Drlg. sh. 1,150 ft.

Normandie Oil Co. No. 1 R. J. Peveto, C. Williams Sur. Drlg. sh. 2,300 ft.

Peyton Bros. No. 1 Pansy Yount, A. Houston Sur. Drlg. sh. 2,758 ft.

Stanolind O. & G. Co. No. 1 J. W. Hall, H. Williams Sur. T.D. 6,103 ft.; making D.S.T.

Stanolind O. & G. Co. No. 2 Sargl, H. Williams Sur. 16-in. csg. 60 ft.; drlg. sh. 3,665 ft.

Stanolind O. & G. Co. No. 3 Sargl, H. Williams Sur. R.U.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 2 M. E. Fitzhugh, Wm. McFaddin Sur. R.U.

Fannett—Jefferson County

Gulf Oil Corp. No. 1 Junker, W. A. Smith Sur. 9⅝-in. csg. 6,009 ft.; sd. 6,615 ft.

LaBelle—Jefferson County

Sun Oil Co. No. 1 John Ward, 933 ft. S of No. 2 Broussard, Wm. Burton Sur. 18⅝-in. csg. 109 ft.; drlg. sh. 8,263 ft.

Nome—Jefferson County

Shell Pet. Corp. No. 5 Carpenter, M. Peveto Sur. T.D. 6,145 ft.; tstd. S.W. on D.S.T.; 5-in. csg. 6,075 ft.; P.B. 6,047 ft.; perf. csg.; swbg.

Shell Pet. Corp. No. 1 Texas Public Service Co., W. H. Aldridge Sur. T.D. 6,050 ft.; swbg.

Sun Oil Co. No. 1 J. E. Burrows, J. Blair Sur. T.D. 6,045 ft.; 5¾-in. csg. 5,995 ft. I.P. 78 B.P.D.; ¼-in. ck.

Sun Oil Co. No. 4 Hugh Longe, J. Blair Sur. T.D. 106 ft.; run surf. csg.

Sun Oil Co. No. 6 Paggi, J. W. Kirby and W. H. Aldridge Sur. T.D. 6,049 ft.; comp.; for gas well; perf. csg. 5,655-75 ft.; set retainer.

Sun Oil Co. No. 1 A. J. Mouboules, J. Blair Sur. 10¾-in. csg. 1,062 ft.; T.D. 8,768 ft.; P.B. 8,175 ft.; tstd. S.W.; P.B. 5,650 ft.

Cleveland—Liberty County

Gulf Oil Corp. No. 17-C Kirby, J. Pleasants Sur. Drlg. sh. 5,517 ft.

Ganado—Jackson County

Texas Co. No. 1 Hultquest, D. Dempsey Sur. Bldg. drk.

Hankamer—Liberty County

Gulf Oil Corp. No. 2-A Weiser, George Stengler Sur. T.D. 5,225 ft.; P.B. 3,710 ft.; perf. csg. 3,390-3,400 ft.; tstg.

Hull—Liberty County

Bishop Oil Co. No. 1 C. R. Wilson, J. DeVore Sur. Oil sd. 780-88 ft.; drlg. sh. 2,379 ft.

D.&L. Production Co. No. 4 Mecon and Layton, J. DeVore Sur. T.D. 4,955 ft.; set screen; tstg.

Eclipse Oil Co. No. 1 Barrow. T.D. 5,014 ft.; S.D.

Gulf Oil Corp. No. 23 Baldwin, J. Devore League Sur. Oil sd. 4,975-5,014 ft.; T.D. 5,016 ft.

Hamil and Smith No. 1 Barngrover, J DeVore Sur. Drlg. sh. and L. 4,105 ft.

Republic Prod. Co. No. 162 Dolbear, J. DeVore Sur. Drlg. sh. 2,811 ft.

Texas Co. No. 6 Hannah, J. Devore Sur. Drlg. sdy. sh. 4,116 ft.

Bay City—Matagorda County

Hamman Expl. Co. No. 2 Cleveland, E Hall Sur. R.U.

Palacios—Matagorda County

Glenn H. McCarthy No. 1 Foley Land Co., L. Goodwin Sur. M.I.R.

Hawkinsville—Matagarda County

Sun Oil Co. No. 2 Craig, T. Williams Sur. Top salt 796 ft.; base salt 2,099 ft.; 18⅝-in. csg. 2,174 ft.; 13⅜-in. csg. 3,700 ft.; drlg. sh. 5,466 ft.

Van Vleck—Matagarda County

Royal Oil Co. No. 1 Fine Holub, M. Cummings Sur. Drlg. sh. 7,724 ft.

Skelly Oil Co. No. 2 Rugely, I.&G.N. Sur. No. 8. 10¾-in. csg. 1,399 ft.; T.D. 8,264 ft.; perf. csg. 7,499-7,505 ft.; no show; S.D.

Skelly Oil Co. No. 2 Grace Moore, I.&G.N. Sur. Drlg. sh. 5,096 ft.

Ace—Polk County

Peyton Bros. No. 1 A. H. Waldenan, P. A. Sublett Sur. Drlg. sh. 3,810 ft.

Livingston—Polk County

Ownby Drlg. Co. No. 2 W. B. Munson, A. Viesca Sur. T.D. 4,322 ft.; abd.

Segno—Polk County

J. K. Dorrance No. 1 Sarah F. Wing, I.&G. N. Sur. No. 15. R.U.

J. K. Dorrance No. 3 Wing, I.&G.N. Sur. No. 15. 10¾-in. csg. 610 ft.; T.D. 5,187 ft.; 7-in. csg. 5,172 ft.; I.P. 490 B.P.D.; ¼-in. ck.

J. K. Dorrance No. 4 Wing, I.&G.N. Sur. No. 15. R.U.

Gulf Oil Corp. No. 1 Wing, I.&G.N. Sur. No. 15. T.D. 5,183 ft.; I.P. 430 B.P.D.; ¼-in. ck.

Gulf Oil Corp. No. 2 Wing, I.&G.N. Sur. No. 15. Drk.

Humble O. & R. Co. No. 1 Kirby Lbr. Co., P. Garcia Sur. Top Cockfield 5,122 ft; 7-in. csg. 5,187 ft.; T.D. 5,652 ft.; P.B. 5,200 ft.; W.O.C.

LaQuinta Oil Co. No. 1 Wing Est., I.&G.N. Sur. No. 15. Drlg. 3,500 ft.

Quintana-O'Connor-Greta—Refugio County

Cosmo Pet. Co. No. 16 Heard, Blk. 119, Refugo Townsite. Drlg. sh. 4,815 ft.

Hewitt & Daugherty No. 44 Lambert, Swisher Sur. No. 6. T.D. 5,915 ft.; tstg.

Hewitt & Daugherty No. 47 Lambert, Swisher Sur. T.D. 5,909 ft.; I.P. 1,262 B.P.D.; ⅝-in. ck.

Illinois Pet. Co. No. 3 Heard, Ximines Sur. T.D. 6,520 ft. testing.

United Gas Corp. No. 48 Lambert, J. M. Swisher Sur. T.D. 5,939 ft.; I.P. 420 B. P.D.; ¼-in. ck.

United Gas Co. No. 49 Lambert, Swisher Sur. Spudded.

United Gas Co. No. 51 Lambert, Swisher Sur. Drlg. 4,382 ft.

United Gas Corp. No. 12 J. J. O'Brien. T.D. 8,204 ft.; fsg.

Keeran—Victoria County

Gulf Oil Corp. No. 11 J. M. Keeran, M. DeLeon Sur. R.U.

Union Oil Co. of Calif. No. 4 Keeran, M. DeLeon Sur. Drlg. sh. 3,022 ft.

Placedo—Victoria County

Barnsdall-American Liberty Oil Co. No. 10 J. M. Pickering, Wm. Rupley Sur. Drlg. sd. 5,437 ft.

Barnsdall-American Liberty Oil Co. No. 15 Pickering and Roos, S.A.&M.G. Sur. No. 6. Drlg. sh. 3,400 ft.

Costa Oil Co. et al No. 2 J. E. Schovajsa, Wm. Rupley Sur. T.D. 4,776 ft.; W.O.C.

Haynes B. Owenby No. 3 Traylor, S.A.&M. G. Sur. Drlg. sh. 2,385 ft.

Magnolia Pet. Co. No. 7 Sklar, Lot 18, S. A.&M.G. Sur. No. 7. Drlg. sh. and L. 4,693 ft.

Portilla O. & G. Co. No. 1 T. P. Traylor, S.A.&M.G. Sur. No. 11. R.U.

Shell Pet. Corp. No. 3 Houston National Bank, Lot 6, S.A.&M.G. Sur. T.D. 4,760 ft.; W.O.C.

Superior O. & G. Co. et al No. 6 J. J. Hosek, S.A.&M.G. Sur. Drlg. sh. 4,304 ft.

Superior Oil Co. and Gillespie No. 5 J. J. Hosek, S.A.&M.G. Sur. No. 7. R.U.

Superior Oil Co.-Gillespie No. 7 J. J. Hosek, S.A.&M.G. Sur. No. 7. Drlg. sh. 4,540 ft.

Westgate Oil Co. No. 6 F. F. Mieska, S.A. &M.G. Sur. No. 10. Drk.

Clay Creek—Washington County

Sun Oil Co. No. 6 Droger, J. Perry Sur. T.D. 387 ft.; W.O.C.

Virginia Oil Co. No. 1 Joe Kenieczny, S. M. Williams Sur. 10¾-in. csg. 104 ft.; T.D. 1,500 ft.; washing to bottom.

Five Corners—Wharton County

Texas Co. No. 7-B Pierce Est., J. Caldwell Sur. Drk.

Texas Co. No. 6-B Pierce, J. Hyland Sur. T.D. 5,554 ft.; 7-in. csg. 5,544 ft.; flwd 21 bbls. in 4 hrs. on gas-lift.

Louise—Wharton County

C. E. Oil Co. No. 1 R. C. Fair, Morris and Cummins Sur. No. 290. Drk.

Pure Oil Co. No. 6 McIntyre, Morris and Cummings Sur. No. 288. 9⅝-in. csg. 916 ft.

Pickett Ridge—Wharton County

Texas Co. No. 33-A Pierce Est., G.B.&N. Sur. No. 4; 9,000-ft. test. Bldg. drk.

Texas Co. No. 1 Earnest Wittig, J. Telfener Sur. Drlg. 100 ft.

Spanish Camp—Wharton County

Albert Plummer et al No. 1 J. R. Clored, S. F. Austin Sur. Drlg. sh. 3,637 ft.

Withers—Wharton County

Texas Co. No. 25-C Pierce Est., Wm. Pettus Sur. T.D. 5,558 ft.; 7-in. csg. 5,553 ft.; W.O.C.

Texas Co. No. 26-C Pierce, Wm. Pettus Sur. 10¾-in. csg. 1,233 ft.; T.D. 5,563 ft.; 7-in. csg. 5,553 ft.

Texas Co. No. 27-C Pierce Est., Wm. Pettus Sur. R.U.

Texas Co. No. 28-C Pierce Est., Wm. Pettus Sur. Drk.

GULF COAST WILDCATS

Austin County

R. L. Hopkins No. 1 J. W. Recnecke, J. Stephenson Sur. R.U.

Brazoria County

Pure Oil Co. No. 1 P. M. Slade, S. F. Austin Lge. Drlg. sh. 7,122 ft.

Texas Co. No. 2 Robbins, James W. Brougham Sur. 13⅜-in. csg. 5,498 ft.

Calhoun County

Matagorda Oil Co. No. 1 Brundet, Tr. 8, Matagorda Island. 13⅜-in. csg. at 1,826 ft.

Fort Bend County

Research, Inc., No. 1 J. M. Moore, S. Kennedy Sur. 10¾-in. csg. 448 ft.; drlg. sh. 2,325 ft.

Galveston County

Shell Pet. Corp. No. 2 Maco Stewart, 4,400 ft. E of No. 1 J. Spillman Sur. 10¾-in. csg. 1,484 ft.; T.D. 6,800 ft.; abd.

Harris County

H. J. DeArman et al No. 1 Tyrell-Garth, L. Hemminway Sur. R.U.

H. M. Harrell et al No. 1 F. N. Bullock. Charles Bowman Sur. T.D. 7,005 ft.; abd.

Texas Gulf Prod. Co. No. 1 Gillespie and Garnsey, Simon Contreras Sur. 10¾-in. csg. 1,438 ft.; T.D. 8,084 ft.; perf. csg. 7,097-7,100 ft.; swbg.

Houston County

American Liberty Oil Co. No. 1 J. D. Bean, D.W.R.R. Co. Sur. 10¾-in. csg. 1,796 ft.; T.D. 6,260 ft.; 7-in. csg. 6,120 ft.; P.B. 6,040 ft.; perf. csg. 6,026-40 ft.; comp. for dist. well.

H. L. Hunt No. 1 J. E. Elliott, J. M. Procella Sur. 13⅜-in. csg. 495 ft.; drlg. 6,456 ft.

Jefferson County

Humble O. & R. Co. No. 1 Jefferson Ld. Co., C. Hillibrant Sur. T.D. 8,232 ft.; 7-in. csg. 8,162 ft.; T.D. 8,458 ft.; cutting and pulling stuck D.S.; P.B. 7,860 ft.; drld. out 7,880 ft.; perf. csg. 7,827-34 ft.; flwd. wash wtr.; abd.

Magnolia Pet. Co. No. 1 J. H. Phelan, T.&N.O. Sur. No. 14. 13⅜-in. csg. 3,016 ft.; drlg. sh. 6,145 ft.

Lavaca County

Welshire Union Oil Co. No. 1-A Pohl, F. Bass Sur. T.D. 3,250 ft.; P.B. 2,950 ft.; two tests failed; S.D.

Liberty County

Jack Frazier et al No. 1 B. F. Haoachy, Hugh B. Johnson Sur. Drk.

Matagorda County

Continental Oil Co. No. 2 Hawkins Est., D. McCarthy Sur. Bldg. drk.

Continental Oil Co. No. 2 Robbins, J. C. Franz Sur. 11¾-in. csg. 6,430 ft.; T.D. 8,912 ft.; 8⅝-in. csg. 8,912 ft.; drlg. sh. 10,363 ft.

United North & South Development Co. No. 1, J. S. Cotton Sur. Drlg. sdy. sh. 9,496 ft.

Polk County

C. E. Gates No. 1 L. O. Jackson, J. W. Abbey Sur. 10¾-in. csg. 487 ft.; drlg. sh. 2,580 ft.

Mayo et al No. 1 Catline Mayo, J. G. Loving Sur. 10¾-in. csg. 250 ft.; T.D. 5,101 ft.; run Schlumberger.

Trinity County

West Prod. Co. No. 1 Texas Long Leaf Lbr. Co., John Williams Sur. R.U.

Tyler County

Republic Prod. Co.-Houston Oil Co. No. 2 Hurd, N. Hurd Sur. 10¾-in. csg. 2,296 ft.; drlg. sh. 7,600 ft.

Victoria County

Commonwealth O. & G. Co. No. 3 W. H. Bennett, J. Estuvan-Galbon Sur. 7-in. csg. cmtd. on bottom; perf. 5,467-70 ft.; flwg. 3 bbls. fluid per hr.; ¼-in. ck.; T.D. 5,475 ft.; well killed and perfs. cmtd. off; reperf. csg. 5,688-91 ft.; flwd. 5 B.P.H. then went to gas.

Magnolia Pet. Co. No. 1 Annie B. Wayne, T.&N.O. Sur. No. A-407. Perf. csg. 2,519½-24 ft.; tstd. wet gas through 9/64-in. ck.; comp. for wet gasser.

Walker County

Garland, Hartman & Page No. 1 Carey Ld. & Dev. Co., D. M. McDonald Sur. R.U.

Waller County

Nine Blumenthal No. 1 Alex P. Kelley, S. H. Haddin Sur. Abd. 4,758 ft.

Red Bank Oil Co. No. 1 Roy Chapman, M. Donohoe Sur. Drlg. sh. 1,265 ft.

Stanolind O. & G. Co. No. 1 Wm. Hargrove, T. S. Reese Sur., sec. 110, T.D. 2,510 ft.; run 10¾-in. csg.

Washington County

K. D. Harriss and Starr No. 1 Ellerman, A. D. Houston Sur. R.U.

Wharton County

S. G. Harrison and H. E. Williams No. 1 H.&G.H. Harfst, Lyman Conisrite Sur. Spdd.

J. F. Hutchins No. 1 J. J. Winsley, James Tumlinson Sur. 10¾-in. csg. 647 ft.; abd. 5,472 ft.

Smith and McDannald No. 1 Hurlbut, I. &G.N. Sur. No. 23. Drlg. sh. 2,300 ft.

S. W. TEXAS WILDCATS

Aransas County

Barnsdall Oil Co. No. 1-A Kate Edwards, 330 ft. S line, Lot 85. 660 ft. SW No. 1. Wm. Lewis Sur. D.S.T. 7,447-67 ft.; blew out 1,000-ft. wtr. cushion; closed; rec. 3 gal. dist.; T.D. 7,519 ft.; twisted off D.S. while rmg.

J. L. Collins No. 1 Wheeler, Cen. Tuton Sur., Tr. 2-D. T.D. 7,020 ft.; D.&A.

Atascosa County

Frontier Oil Co. No. 1 Oppenheimer, John Sharp Sur. Set csg. 2,770 ft.; comp.; 5 B.P.D.

R. J. Roberts et al No. 1 Elder, Sur. 190. T.D. 3,160 ft.; fsg. drill pipe.

Bee County

L. Glasscock No. 1 Ablinger, J. Ryan Sur. Set sur. csg. 1,350 ft.; sd. 4,828-50 ft., Cg. 5,915 ft.

Blanco County

E. L. Nixon No. 1 Hornberger, 1,200 ft. S line, 300 ft. E line, Sur. 723. Drlg. 913 ft.

Brooks County

Standard of Tex. No. 1 Mestina, Mestina Lse. No. 3. D.S.T. 2,395-2,405 ft.; rec. 165 ft. fluid, some oil in 12 min.; set csg.; D.S.T. 2,415-22 ft.; rec. sulfur wtr.; drlg. ahead.

Burleson County

M. R. Exploration Co. No. 3 Fountain, Wm. Raleigh Sur. M.I.M.

Red Bank Oil Co. No. 2 Grann, 6,063 ft. N line, 1,900 ft. W line, E. Santef Sur. M.I. rig.

Caldwell County

Sherman Nelson No. 1 Etheridge, T. Hunter Sur. Set csg. 1,970 ft.

Cameron County

Saxet Prod. Co. No. 1 Port Isabel Irr. Co., 600 ft. N line Loma Alta Lake, Sh. 29, Espiritu Santo Gr. M.I.M.

Stapper Petroleum Corp. No. 1 Port Isabel Irrigation Co., Blk. 17. P.I.I.Co. Subd. Santo Gr. Drlg. 6,997 ft.

Dimmitt County

Wilcox O. & G. Co. No. 1 Light ranch. 330 ft. N and E line, sec. 67. Drlg. 4,563 ft.

Duval County

Argo Oil Co. No. 1-A D.C.R.C.. Sur. 498. D.&A. 2,898 ft.

Frank Gravis No. 1 Vaello Puig, 330 ft. W line, 2,718 ft. S line, 1,760.73-ac. tr., Sur. 250. Sd. 4,762-68 ft.; D.S.T. 15-min., rec. 700 ft. oil; set csg. 4,765 ft.; comp.; 8 B.P.H. on 5/32-in. ck.; T.P. 750 lbs.; C.P. 840 lbs.

H. F. Grimm No. 1 Mew, Sur. 289. Sd.

4,386-93 ft.; tstd. S.W.; D.&A. 5,005 ft.

Henshaw Bros. No. 1 McGuffin, W ½, sec. 230. D.&A. 3,200 ft.

Texas Co. No. 3-B D.C.R.C., Sur. 583. T.D. 1,683 ft.; P.B. 1,556 ft.; W.O.C.

E. R. Thomas Estate No. 3 Parr, SW¼, Sur. 26. Sd. 4,660-70 ft.; D.S.T., rec. 120 ft. P.L.O. at 720 lbs. W.P. in 15 min.; set csg. 4,672 ft.; comp.; 64½ B.P.D. dist. on ½-in. ck.; 975 lbs. T.P.

Edwards County

Auld, Dodson & Lyman No. 1 Rigsby, sec. 16. Drlg. 2,567 ft.

Frio County

Amerada Pet. Corp. No. 1 Harriman, Flores Sur. 306. Drlg. 6,255 ft.

Goliad County

Goliad Oil Corp. No. 1 Cole, 206 ft. W line, CN&SL, Lot 33, Goliad Town Trs. Drlg. 1,920 ft.

Guadalupe County

J. R. Brinkley No. 2 Trammel, Hunter Sur. Set csg. 1,990 ft.; W.O.C.

Byrd Oil Co. No. 1 Schueneman, G. D. witt League. Cg. chalk.

J. E. Clark No. 1 Anderson. D.&A. 2,-545 ft.

Louis Crouch No. 1 King, J. D. Clements Sur. R.U.

Lincoln Pet. Co. No. 1 Baenzinger, Mansola Sur. Set csg. 1,990 ft.; drlg. plugs.

Robertson et al No. 1 Blumberg, M. Baker Sur. Drlg. 1,026 ft.

Hidalgo County

Daskam et al No. 2 Daskam, C Lot 14-A, Porc. 45. Drlg. 191 ft.

Young & Bonneau No. 1 Diaz, Tr. 331, Porc. 40. Cg. sh. 2,827 ft.

Jim Hogg County

Cole Pet. Co. No. 1 Yeager, Sur. 452. Drlg. 2,215 ft.

Gifford Oil Co. and Purnell No. 2 Armstrong, S½, Sur. 43. D.&A. 3,690 ft.

S. Payne No. 1 Holbien, 150 ft. N and W lines, Blk. 10, Sh. 3, Animas Gr. R.U.

S. Price No. 1 Maryland Trust Estate, Blk. 15, Sur. 314. Drlg. 1,021 ft.

Jim Wells County

H. J. O. & G. Co. No. 1 Allen, Blk. 2, Wade ranch. Spudded.

Magnolia Pet. Co. No. 7 Seeligson, 10,433-ac. tr., Los Jaboncillos Gr. Loc.

Roberts et al No. 1 Wade, Lot 2, Wade ranch. Loc.

Tesmalis & Reese No. 1 Martha Earhart, 330 ft. S and W lines, 80-ac. tr., Suggs Sur. Cg. 3,737 ft.

Wellington Oil Co. No. 1 C. D. Sevier, 5,87[illegible] ft. E line, 5,525 ft. S line, Lola Gr. Loc.

Karnes County

De Graff & Reele No. 1 Cochran, 460 ft. E line, 160 ft. S line, McConnell Lge. S.D. 950 ft. (cor.).

Victoria Drlg. Co. No. 1 John Yanta, J. Hardaway Sur. T.D. 1,511 ft.; S.D.

Victoria Drlg. Co. No. 1 Wm. Yanta, J. Hardaway Sur. M.I.M.

Kerr County

S. W. Forrester No. 1 Bailey, Brendle Sur. No. 408. Set csg. 1,080 ft.; W.O.C.

Live Oak County

R. H. Feltner No. 2 Sanger, 330 ft. W line, 990 ft. N line, Sur. 385. R.U.

E. M. Jones No. 3 Ezell, SE¼, sec. 3, Ezell ranch. R.U.

Loma Oil Co. No. 1 Anderson, 159-ac. tr., J. Turner Sur. Drlg. 516 ft.

R. B. Sanger No. 1 Adams, 330 ft. N and E lines, 80-ac. tr., Sur. 122. R.U.

McMullen County

Big Rock Oil Corp. No. 1 Martin, Uleiting Sur. No. 6. S.D. 532 ft.

H. K. Boysen No. 1 Murphy, Murphy Sur. 480. Drlg. 395 ft.

Howell Oil Corp. No. 1 Martin, Sur. 213. Set csg. 60 ft.; W.O.C.

Humble O. & R. Co. No. 1 Gouger, 330 ft. S and E lines, SE¼, sec. 46. Drlg. sh. 3,142 ft.

Rowan & Hope No. 1 Rhodes, NE¼ sec. 18, Seale & Morris Sur. M.I.M.

Medina County

A. Chmel No. 1 Odem, 160 ft. W line, 493 ft. N line tr., Castro Sur. 174. M.I.M.

National Oil Co. of Texas No. 1 Gerdes, Haby Sur. No. 32. Drk.

Nueces County

Clarkwood Oil Co. No. 1 H. B. Baldwin, Blk. 11, Russell Farm Lots. Drlg. 4,-342 ft.

L. Glasscock No. 1 Kansas Life. Ins. Co., 330 ft. N and W lines, sec. 196. Drlg. 3,207 ft.

Green River Oil Co. No. 1 Cassens, sec 26, Longorio Sur. Spudded.

Southern Minerals Corp. No. 1 R. King, sec. 32, King Farm Lots. Cg. 5,823 ft.

Taylor Pet. Co. No. 1 Stiles, Blk. 14, sec. 18, Petronilla ranch. Spudded.

Wellington Oil Co. and Seaboard Oil Corp. No. 1 Dugger, sec. 125, Park Subd. Tstg. 3,675-86 ft.

Real County

Sun Oil Co. No. 1 Dietert, 1,980 ft. E line, 660 ft. S line, sec. 7, G.W.T.&B. Sur. Set csg. 5,680 ft.; S.G.; drlg. ahead 5,710 ft.

San Patricio County

Eleanor Oil Co. No. 1 Davis, 208.8-ac. tr., G. Grover Sur. M.I.M.

Conroe Drlg. Co. No. 1 McKamey, Blk. M. Paul Subd. Tstd. S.W. 5,370-74 ft.; drlg. ahead 6,087 ft.

Phillips Pet. Co. No. 1 Schmidt, sec. 81, Paul Subd. T.D. 7,003 ft.; P.B. 5,370 ft.; completing on ¼-in. ck.; 11 B.P.H.; 70% oil.

Wheelock & Collins No. 1 Willis, Lot 3, Gregory Farm Sur. Cg. 5,377 ft.

Windsor Oil Co. No. 1 Bissett, Tr. 3, Trivoli Subd., Crockett Sur. Loc.

Starr County

Cook, Morris & Arnold No. 2 S.U.C.C., Blk. 23. Porc. 89. Drlg. 1,170 ft.

C. T. Daye No. 1 Seabury, Sh. 5, Porc. 75. Drlg. 326 ft.

Donroy Oil Co. No. 1 Ramon, 2,400 ft. SE line, 150 ft. SW line, sec. 150. Cg. 1,281 ft.

Henry Mode et al No. 1 Kelsey-Bass, Blk. 7, Porcs. 86 and 87. R.U.

Transwestern Oil Co. No. 2 Slick, 330 ft. N and E lines, sec. 527. Drlg. hd. sh. 4,755 ft.

Webb County

Balling & Coffey No. 1 South Texas C. Co., Sur. 768. Drlg. 183 ft.

C. H. Brady No. 1 Garcia, Sur. 786. Loc.

E. Garner No. 1 Saldivar, Blk. 12, Sur. 657, J. V. Borrego Gr. D.&A. 1,519 ft.

O. W. Killam No. 1 Garcia, Sur. 1,099. Loc.

O. W. Killam No. 1 Garcia, Sur. 786. T.D. 2,024 ft.; rng. electrical survey.

O. W. Killam No. 1 Laurel Bros., Sur. 333. Sd. 2,031-35 ft.; R.U. to pmp; set csg. 2,026 ft.

Lu-Tex Oil Co. No. 1-A Lone Star Constr. Co., Blk. 26, Porcs. 12, 13 and 14. Drlg. 2,316 ft.

J. W. Magee No. 1 Garcia, Blk. 21, James Subd. R.U.

Mills Bennett Prod. Co. No. 2 Slator, Blk. 89, Mission Subd., Borrego Gr. Sd. 1,-462-66 ft.; tstd. oily mud; D.&A. 3,220 ft.

Ohio Fuel Oil Co. No. 2 D.C.R.C., Blk. 20, Sur. 100. D.&A. 2,006 ft.

L. Purnell No. 1 Rosa Benavides, Surs. 677 and 721. Loc.

F. M. Shaver No. 1 Trafton, Sur. 281. R.U.

Vernor & Carson No. 1 Webster. Sd. 3,-040-60 ft.; S.O.; tstg.

Willacy County

Ruez-Morton, Inc., No. 1 F. Armendiaz, C Lot 9, Sh. 4, San Juan de Carricitos Gr. Drlg. 537 ft.

Ruez-Morton, Inc., No. 1 Johnson-Stillman, Lot 14, Blk. 25, Sh. 44, San Juan de Carricitos Gr. S.D. 643 ft.

Shell Pet. Corp. No. 1 Yturria, Sh. 64, San Juan de Carricitos Grant (workover). T.D. 7,662 ft.; to drill deeper; R.U.

Zapata County

H. Guinn Lewis No. 1 S. Benavides, Blk. 39, Villa Gr. Cg. 1,610 ft.

Lundell Prod. Corp. No. 1 Ramirez, Sh. 1, Porc. 18. Drlg. 256 ft.

Zavalla County

Wilcox O. & G. Co. No. 1 Gillman, sec. 11. Drlg. 3,126 ft.

S. W. TEXAS PROVEN

McCampbell—Aransas-San Patricio Counties

Atlantic Ref. Co. No. 2 Maryland Trust Co., 330 ft. N and E lines, Blk. 23. Set csg. 6,516 ft.; W.O.C.

Atlantic Ref. Co. No. 5-B McCampbell, Lot 5, Blk. 49. Drlg. 2,060 ft.

Atlantic Ref. Co. No. 6-B McCampbell, Blk. 49. Drlg. 6,210 ft.

Buckingham Oil Co. No. 2-B McCampbell, Lot 13, Blk. 40. Sd. 7,320-7,400 ft.; S.O. &G.; set csg. 7,440 ft.; perf. csg. 7,350-60 ft.; made S.W.; perf. 7,337-47 ft.; tstg.

Buckingham Oil Co. No. 4-A McCampbell, Blk. 41, Orick Sur. Sd. 6,540-48 ft.; set csg. and perf. 6,540-44 ft. and 6,546-48 ft.; sanded up; cleaning in pits.

Buckingham Oil Co. No. 6-A McCampbell, Blk. 41. Drlg. 7,340 ft.

Collins & Broughton No. 1 McCampbell, Lot 5, Blk. 37, McCampbell Subd. Sd. 6,546-58 ft.; set csg. 6,560 ft.; swbd. S.W.; D.&A.; T.D. 6,560 ft.

Landreth Prod. Co. No. 1 McCampbell, Lot 4, Blk. 40. Completing.

J. Nelson No. 1 Riggs, 330 ft. NW line, 213 ft. SW line, 6.46-ac. tr., Trs. 12 and 13, Blk. 16. Loc.

Rutherford Oil Co. No. 1 Scrivner, 330 ft. NE and NW line, Lot 16. Cg. 6,512 ft.

Foley—Bee County

W. D. Walton No. 1 Holzmark, James A. York Sur. D.&A. 4,304 ft.

Plummer—Bee County

Ann Oil Co. No. 1 Smith, Plummer Chessman Sur. Comp.

W. C. McBride, Inc. No. 1-B Smith, 20-ac. tr., sec. 33, Plummer Subd. R.U.

Strouch—Bee County

Dirks Bros. No. 1 Sinclair, 197-ac. tr., Uranga Gr. Drlg. 260 ft.

D. D. Feldman No. 1 Shaw, sec. 18, Uranga Gr. D.&A. 4,315 ft.

Alta Mesa—Brooks County

Standard of Texas No. 4 Mestina, Lse. No. 1. Set 7-in. csg. 2,434 ft.; T.D. 2,-445 ft.; tstg.

Standard of Texas No. 5 Mestina, Lease No. 1. T.D. 2,602 ft.; prep. D.S.T.

Alta Verde—Brooks County

L. & W. Oil Co. No. 1 Singer, Blk. 8, Sur. 436. Resumed operations; T.D. 960 ft.; rmg.

Branyon—Caldwell County

Blundell Oil Co. No. 2 Luce, J. Neill Sur. Sat. chalk 1,997-2,067 ft.; comp.; est. 150 B.P.D.; T.D. 2,270 ft.

R. B. Byrd No. 1 McGee, J. A. Neal Sur. Drlg. 212 ft.

Easton & Manning No. 3 Lawler. Swbg. 2,265 ft.

J. W. Leonard No. 1 White, 800 ft. N Lockhart Townsite. T.D. 2,306 ft.; comp.; no gauge.

Taylor Pet. Co. No. 1 Caldwell County, 4-ac. tr., D. Cooper Sur. Drlg. 566 ft.

Webster O. & G. Co. and Commonwealth Oil Co. No. 1 McCrory, J. Neill Sur. Set csg. on chalk; completing.

Whisenant & Trenchard No. 1 Young, J. R. Miller Sur. T.D. 2,225 ft.; R.U. to pmp.

Dunlap—Caldwell County

Kay Oil Co. No. 1 Dunlap, S. Seale Sur. Set csg. 1,928 ft.; W.O.C.

Charamousca—Duval County

N. V. Duncan No. 6 Worden & Draught, Sur. 151. Sd. 1,523-29 ft.; comp.; 143 B. P.D. on 5/32-in. ck.; set 7-in. at 1,519 ft.

N. V. Duncan No. 7 Worden & Draught, Sur. 151. Set csg. 1,534 ft.; W.O.C.

Transwestern Oil Co. No. 11 D.C.R.C., E½, sec. 152. Tstg. 1,564 ft.

Colmena—Duval County

Conservative Oil Co. No. 3 Brown-Sentz, Blk. 12, sec. 51. Sd. 1,448-60 ft.; set csg.; comp.; 50 B.P.D.; T.D. 1,462 ft.

Wellington Oil Co. No. 5 D.C.R.C., Blk. 10, sec. 51. R.U.

Wellington Oil Co. No. 6 D.C.R.C., Blk. 9, sec. 52. Comp.; 5 B.P.H.; T.D. 1,-483 ft.

Driscoll—Duval County

Continental Oil Co. No. 14-A Driscoll-Sevier, Sur. 447. M.I.M.

Government Wells—Duval County

Magnolia Pet. Co. No. 1 Wendt, Sur. 56. Drlg. 425 ft.

Magnolia Pet. Co. No. 18 Wilson, Sur. 248. Drlg. 1,772 ft.

Southwest Prod. Corp. No. 2 Luptack, SE¼, Sur. 41. R.U.

Hoffman—Duval County

Relience Oil Co. and Kleiner No. 1 Ruiz, Sur. 125. Drlg. 1,337 ft.

Standard of Kansas No. 5 Green, Sur. 118. Comp.; 50 B.P.D.; T.D. 2,838 ft.

Kohler—Duval County

Chiquita Oil Co. No. 1 Peters, 162-ac. tr., Sur. 162. Drlg. wtr. well.

Clark & Cowden No. 3 Richardson, Sur. 5. Drlg. 3,077 ft.

Humble O. & R. Co. No. 58-A Kohler, Sur. 164. Drlg. 65 ft.

Humble O. & R. Co. No. 1-A Peters, N½, NE¼, Sur. 397. T.D. 3,082 ft.; D.&A.

Windsor Oil Co. No. 5-B Peters, Sur. 34. Loc.

Labbe—Duval County

Humble O. & R. Co. No. 1 Roos et al, sec. 119. Loc.

Loma Novia—Duval County

Bridwell Oil Co. No. 8-A Hahl, Blk. 28, Sur. 250. Cg. 2,417 ft.

F. J. Gravis No. 4 Hahl, Sur. 64. R.U.

Hamil & Smith No. 5 Ruiz, sec. 41. T.D. 2,601 ft.; D.&A.

Humble O. & R. Co. No. 8 Vela, N½, sec. 42. T.D. sd. 2,655 ft.; comp.; 132 B.P.D.

Humble O. & R. Co. No. 21-C Welder, Sur. 554. Drlg. 2,693 ft.

Magnolia Pet. Co. No. 14 Herbst, sec. 70. R.U.

Texas Co. No. 24 Bishop, Sur. 57. Set csg. on sd. 2,570 ft.; comp.; 91 B.P.D.

Texas Co. No. 25 Bishop, Sur. 57. Drlg. 1,877 ft.

Texas Co. No. 4-B Ruiz, Sur. 41. T.D. 2,559 ft.; set csg. 2,554 ft.; comp.; 96 B.P.D.; T.D. 2,565 ft.

Lopez—Webb—Duval Counties

W. C. Billings No. 3 fee, Sur. 2. Drlg. 1,-320 ft.

Humble O. & R. Co. No. 21-C D.C.R.C., Sur. 901. T.D. 2,158 ft.; D.&A.

Kepley Prod. Co. No. 1 Billings, NW¼, Sur. 6. Drlg. 1,956 ft.

Mortimer & Springer No. 2 Community Tr., Sur. 114. R.U.

Mortimer & Springer No. 14-B Maria, Lopez Sur. 112. Comp.; 18 B.P.H.; T.D 2,250 ft.

Mortimer & Springer No. 15-B Maria, Lopez Sur. 112. Drlg. 1,256 ft.

Palangana—Duval County

F. J. Gravis No. 2-A Schallert, Sur. 255. Set sur. csg.; W.O.C.

Penn Palangana Oil Co. No. 3 C. K. Gravis Sur. 250. No report.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 16 D.C.R.C., Sur. 100. Comp.; 156 B.P.D.; T.D. 1,986 ft.

Magnolia Pet. Co. No. 17 D.C.R.C., Sur. 100. Set csg. 1,978 ft.; W.O.C.

Texas Co. No. 21 D.C.R.C., Sur. 100. T.D. (cor.); 1,990½ ft.; comp.; 78 B.P.D.

Texas Co. No. 22 D.C.R.C., SW¼, Sur. 100. Set surf. csg.; W.O.C.

Seven Sisters—Duval County

A. J. Brinkoeter No. 1 Garcia, Sur. 212. Sd. 2,646-56 ft.; S.O.; set csg. 2,639 ft.; comp.; pmpg.; est. 150 B.P.D.

A. J. Brinkoeter No. 2 Garcia, Sur. 212. Drlg. 277 ft.

Humble O. & R. Co. No. 13 Dowdy, Sur. 272. Drlg. 2,982 ft.

Humble O. & R. Co. No. 14 Dowdy, Sur. 272. T.D. 2,569 ft.; cleaning in pits.

Texas Co. No. 11 Badgley, Sur. 307. Set csg. 2,502 ft.; W.O.C.; T.D. 2,520 ft.; comp.; 474 B.P.D. on ¼-in. ck.

Sweden—Duval County

Hiawatha Oil Co. No. 2 Herberger, SW¼, Blk. 14, Agua Poquita Gr. Drlg. 3,-512 ft.

Hiawatha Oil Co. No. 1 Southland, sec. 15, Ball Ranch Subd. Sd. 5,859-65 ft.; tstg.

Thomas-Lockhart—Duval County

Thomas Est. & Lockhart Bros. No. 2 Parr, SW¼, sec. 26. Loc.

Pearsall—Frio County

Amerada Pet. Corp. No. 8 Halff & Oppenheimer, S. A. Ditch Sur. 1,104 (W.O.). Drlg. 9,056 ft.

Hords Creek—Goliad County

Brown & Wheeler No. 1-G Kaufman, Lot 14, Merrill Sur. M.I.M.

North Sweden—Duval County

Frank Gravis No. 2 Vaello Puig, 990 ft. S line, 330 ft. W line, lse., Sam Andre Gr. Loc.

Clark—Guadalupe County

Diamond Halff Oil Co. No. 2 Larison, G. DeWitt Sur. Spudded.

Kenedy & Crowley No. 1 Johns, Davis Sur. T.D. 2,507 ft.; completing.

D. Mulholland No. 1 Johns, J. K. Davis Sur. Spudded.

Darst Creek—Guadalupe County

Diamond Halff Oil Co. No. 1 Bibbs, Robinson Sur. Top Edwards 2,852 ft.; T.D. 5,500 ft.; P.B.

Freeman Oil Co. No. 3 Larrison, G. DeWitt Sur. T.D. 2,700 ft.; dry; P.B. 2,450 ft.; W.O.C.

Riddle Oil Co. No. 1 Williams, G. DeWitt Sur. R.U.

Saxet Prod. Co. No. 2 Wilson, G. DeWitt Sur. No. 13. Drlg. plugs in chalk.

V. G. Schimmel No. 2 Grimm, DeWitt Sur. T.D. 2,525 ft.; set csg. 2,383 ft.; W.O.C.

Watson No. 1 DeLancey, 400-ac. tr. Top chalk 2,020 ft.; S.O.; to acidize.

Nolte—Guadalupe County

Riddle Oil Co. No. 1 Herff, Gortari Sur. No. 76. T.D. 2,160 ft.; set csg. on 100-ft. sat. chalk; drlg. plug.

Riddle Oil Co. No. 2 Nolte, Lowell Sur. 16. Cg. 1,967 ft.

Wheelock & Collins No. 1 Warnecke, 335-ac. tr. R.U.

Samfordyce—Hidalgo-Starr Counties

Barnsdall and Phillips No. 11 Yturria, E½ Porc. 100. Loc.

Sun Oil Co. No. 1 Chapitol, Porc. 99. T.D. 2,844 ft.; D.&A.

Val-Tex Oil Co. No. 2 Chapa, Tr. 250, Porc. 39. Set csg.; T.D. 3,008 ft.; perf. 2,944-46 ft.; stdg.

Alworth—Jim Hogg County

French Oil Co. No. 3 Garza, Blk. 1, Sur. 261. Sd. 1,041-48 ft.; tstd. gas and S.W.; D.&A. 1,070 ft.

French Oil Co. No. 4 Garza, Blk. 1, Sur. 261. Sd. 1,021-38 ft.; tstg.

Bentonville—Jim Wells County

LaJita Co. No. 3 Pope, sec. 20. Loc.

Texon Drlg. Co. No. 2 Ralston, 990 ft. N line, 330 ft. W line, sec. 17. R.U.

Sandia—Jim Wells County

O. W. Killam No. 3-B Wade, Lopez de Jean Gr. D.&A.

West Premont—Jim Wells County

Diamond Halff Oil Co. No. 1 Cupple, Lots 119 and 122, sec. 76. D.&A. 3,200 ft.

C. A. Glasscock No. 1 Bennett, sec. 77. Drlg. 920 ft.

C. G. Glasscock No. 1 Ritter, Lot 45, Haldeman Subd., sec. 76. W.O.; set csg. 3,306 ft.; sd. 3,170-76 ft.; comp.; gasser; (cor.).

Gouger & Mode No. 1 Bennett, Lots 55 and 58, Haldeman Subd., sec. 76. Sd. 2,244-59 ft.; comp.; 98 B.P.D.; on ¼-in. ck.

T. Graham and Gilcrease Oil Co. No. 2 Laughlin, Lots 23 and 26, sec. 76. Comp. 75 B.P.D. at 2,350 ft.

T. Graham and Gilcrease Oil Co. No. 3-B Laughlin, Lots 78 and 83, sec. 77. Cg. 2,225 ft.

Henshaw Bros. No. 1 McGuffin, W½, sec. 230. R.U.

Sloan & Cogswell No. 2 Nash, Lot 118, sec. 76. S.D. 2,362 ft.

Kingsville—Kleberg County

Humble O. & R. Co. No. 9 Kleberg, Lot 2, sec. 40. Sd. 3,218-28 ft.; D.S.T. rec. 210 ft. oil, 200 ft. oily mud; W.P. 54 lbs. in 24 min.; T.D. 3,228 ft.; prep. kill.

Oakville—Live Oak County

Simmons O. & G. Co. No. 1 McGriff, 150 ft. S and E lines, 94-ac. tr., Romero Sur. Set csg. 2,809 ft.; comp.; 60 B.P.D.

Agua Dulce—Nueces County

Texon Drlg. Co. No. 2-B Sevier, 880-ac. tr., W. W. Chapman Lds., Palto Alto Gr. Set 16-in. csg. 300 ft.; T.D. 6,350 ft.; set csg.; pmpg. mud to kill wild No. 2; T.D. 6,465 ft.

United Prod. Co. No. 1 Harvey, 1,100 ft. W line, 1,050 ft. N line, tr., M. Garza Sur. Oil sd. 7,382-95 ft.; cap. 7,396-98 ft.; top S.W. sd. 7,398 ft.; drlg. 8,125 ft.

J. P. Walker et al No. 2 Ingram, Blk. 8 sec. 6, Ross Peters Subd. Sd. 4,785-4,815 ft.; set csg. 4,785 ft.; W.O.C.

Baldwin—Nueces County

Heyser & Heard No. 1 Kosar, 152-ac. tr., M. J. Cody Sur. Drlg. 3,486 ft.

Chapman Ranch—Nueces County

Seaboard & Allen No. 1-B Chapman, 1,980 ft. N line, 660 ft. W line, sec. 37. Drlg. 6,495 ft.

Seaboard Oil Corp. and Allen No. 4 Chapman, 660 ft. S line, 3,300 ft. W line, sec. 38. Drlg. 4,215 ft.

Clara Driscoll—Nueces County

Houston Oil Co. No. 1 Sevier, 330 ft. S and W lines, 77.1-ac. tr., Quadrilla Irr. Co. Sur. Loc.

Magnolia Pet. Co. No. 2 Sevier, 330 ft. S and W lines, 80-ac. tr., R. Russell Sur.

Sd. 5,439-42 ft.; tstd. S.W.; T.D. 5,800 ft.; S.D.
Magnolia Pet. Co. No. 3 Sevier, 80-ac. tr., Russell Sur. R.U.

Flour Bluff—Nueces County

Humble O. & R. Co. et al No. 2 Collin, Lot 20, Blk. 48. Drlg. 66 ft.
Humble O. & R. Co. et al No. 2 Golden, Lot 19, Blk. 47. T.D. 6,680 ft.; set csg.; W.O.C.
Humble O. & R. Co. et al No. 3 Gulden, Lot 18, Blk. 47. Drlg. sd. 223 ft.
Humble O. & R. Co. No. 2-B Miller, Blk. 21, sec. 48. Set csg. 6,653 ft.; W.O.C.
Humble O. & R. Co. et al No. 4-A Miller, Lot 19, Blk. 56. Set csg. 6,648 ft.; T.D. 6,658 ft.; completing.
Humble O. & R. Co. et al No. 5-A Miller, Lot 18, Blk. 56. R.U.
Humble O. & R. Co. No. 1 Thompson. Drlg. sh. 1,060 ft.
Humble O. & R. Co. No. 4 Webb, Lot 9, sec. 47. Set surf. csg. 1,050 ft.; W.O.C.
Humble O. & R. Co. et al No. 4 Webster, Lot 27, Blk. 48. Drlg. 1,100 ft.

London—Nueces County

Cosner & Cosner No. 2 Stockton, 40-ac. tr., sec. 25. R.U.
Gem Oil Co. No. 1 Stockton, 330 ft. N and W lines, SE¼, NE¼, sec. 25. Sd. 4,551-56 ft.; tstd. S.W.; D.S.T. 4,716-23 ft.; rec. 250 ft. P.L.O.; set csg.; S.D.

Saxet Heights—Nueces County

Harrison Drlg. Co. No. 1 Simms, 4-ac. tr., Villareal Sur. T.D. 4,097 ft.; P.B. and sdtrkd. 3,928 ft.; set csg. in sdtrkd. hole 4,098 ft.; completing.
Ben F. Smith No. 1 Snowden, 13-ac. tr., Villareal Sur. R.U.
Taylor Pet. Corp. No. 2 Kaler, 10-ac. tr., Villareal Sur. Drlg. 4,780 ft.

Saxet—Nueces County

C. Anchade No. 9 McGregor-Belk, 130 ft. S line, 990 ft. E line, lse., Sur. 816. R.U.
Baltic Drlg. Co. No. 4 Harmon, Sur. 416. Sd. 6,958-68 ft.; S.O.; set csg. 6,970 ft.; W.O.C.
Benson Drlg. Co. No. 1 Morgan, 330 ft. N and W lines, 40-ac. tr., Sur. 315 (W.O.). Old T.D. 4,483 ft.; R.U. to D.D.
Bentex Oil Co. No. 5 Harmon, 330 ft. S and W line, 50-ac. tr., Sur. 416. T.D. 7,010 ft.; P.B. 5,808 ft.; drlg. plugs.
R. B. Bryant No. 6 Frank, Sur. 416. T.D. 6,650 ft.; P.B. to sdtrk. 4,000 ft.; drlg. 5,425 ft.
Bryant & Howell No. 2 Morgan, Sur. 415. Drlg. 6,246 ft.
Conservative Oil Co. No. 3-B Morgan, Sur. 403. Oil sd. 6,914-28 ft.; set csg. 6,928 ft.; perf. 6,750 ft.; S.W.; perf. 4,048-52 ft.; recmtg.
A. D. Corgey No. 1 Page, 330 ft. S and E lines, 20-ac. tr., Sur. 716. Sd. 6,685-6,-715 ft.; set csg. 6,715 ft.; recmtg. perf. 6,690-95 ft.
Donico Prod. Co. No. 2 Donigan, 330 ft. W line, 2,004 ft. S line, 80-ac. tr., sec. 7, Rge. 6, Kinney Lds. Sd. 4,854-60 ft.; set csg.; W.O.C.
Donico Prod. Co. No. 4 Donigan, 60-ac. tr., Villareal Sur. Set sur. csg. 1,036 ft.; W.O.C.
Gilcrease Oil Co. No. 3 Sullivan, 140-ac. tr., Thos. Gallagher Sur. S.D. 3,852 ft.; W.O.O.
L. Glasscock No. 2 Johns, 20-ac. tr., MacGregor Sur. 582. M.I.M.
L. Glasscock No. 3 Hunter, 990 ft. N line, 330 ft. W line, 160-ac. tr., Dunn Sur. 312. Perf. 4,861-63 ft.; washing in.
Tom Graham No. 3 Harmon, 20-ac. tr., Sur. 416. Drlg. 6,667 ft.
Great States and Violet No. 9 McGregor-Belk, 73.6-ac. tr., sec. 311. Cg. 4,815 ft.
W. H. Harrison Drlg. Co. No. 1 Taggert, 50-ac. tr., Sur. 401. D.&A. 6,004 ft.
Hiawatha Oil Co. No. 8 Hutchins-Stillwell, Lot 30, Sheppard Farm Lds. Sd. 5,819-30 ft.; W.O.O.
Hiawatha Oil Co. No. 9 Hutchins-Stillwell, Lot 34, Sheppard Lds. Fsg. core bbl.; sd. 6,719-37 ft.
Hiawatha Oil Co. No. 4-B Smith, Sheppard Farm, Lot 35. Drlg. 3,867 ft.
Hiawatha Oil Co. No. 5-B Smith, Blk. 35, Sheppard Farm Lots. Spdd.
Houston Oil Co. No. 2 fee, Sur. 582. Sd. 5,806-12 ft.; comp.; 150 B.P.D.
Houston Oil Co. No. 9 McGregor, 135-ac. tr., Sur. 582. Set csg. 1,476 ft.; W.O.C.
Houston Oil Co. No. 22 Morgan, sec. 7, Rge. 5. Set csg. 4,425 ft.; W.O.C.
Houston Oil Co. No. 24 Morgan, sec. 7, Rge. 5. R.U.
H. H. Howell No. 4 Hutchins, 80-ac. tr., Sur. 416. Drlg. 5,330 ft.
H. H. Howell No. 2 Morgan, Blk. 3, NW¼, Sur. 415. T.D. 6,328 ft.; P.B. to test 5,-700 ft.
Kepley Prod. Co. No. 3 Donigan, 100-ac. tr., sec. 7, Rge. 5. Sd. 4,861-69 ft.; re-perf. 4,858-60 ft.
Maryland Corp. No. 1 Carson, 7-ac. tr., Sur. 416. O.W.W.O.; old T.D. 5,843 ft.; T.D. 6,940 ft.; set csg. 6,350 ft.; drlg. plugs.
Morgan & Chapman Minerals No. 6 Morgan Clark, NE¼, Sur. 405. Sd. 5,853-72 ft.; set csg. 5,872 ft.; W.O.C.
North Star Oil Co. No. 11 Rand Morgan, 80-ac. tr., Sur. 405. Drlg. 5,967 ft.
Pan American Prod. Co. No. 5-C Morgan, E½ SW¼, Sur. 405. Cg. 6,812 ft.
Pan American Prod. Co. No. 6-D Morgan, Sur. 405. Drlg. 5,797 ft.
Pan American Prod. Co. No. 5-B Sagarin, Sur. 500. Drlg. 3,493 ft.
Pan American Prod. Co. No. 2 Solar Sevier Sur. 582. Set csg. 6,293 ft.; W.O.C.
Phillips Pet. Co. No. 1 Frank, 27.5-ac. tr., Sur. 500. R.U.
Port O. & G. Co. No. 3 Cox & Cryder, Sd. 3,814-28 ft.; set csg. 3,851 ft.; W.O.C.
Potter & Snowden No. 1 Kocurek, 26-ac. tr., Sur. 25. Set 5½-in. csg. at T.D. 4,-209 ft.; perf. 4,125 ft.; completing.
Potter & Snowden No. 1 Taggert, Blk. 5, Sur. 401. Set csg. 1,000 ft.; W.O.C.
Renwar & Maryland No. 1-A Rand Morgan, Sur. 415. O.W.W.O.; R.U. to deepen; old T.D. 5,825 ft.
Republic Nat. Gas Co. No. 2 McCampbell, 144-ac. tr. Drlg. 3,145 ft.
Republic Nat. Gas Co. No. 3-A Morgan, sec. 405. Drlg. 1,780 ft.
Republic Nat. Gas Co. No. 3 Walton, 40-ac. tr., Page Lds. Sur. Drlg. 3,510 ft.
Richardson Pet. Co. No. 7 Cain & Secrist, Blk. 23, Russell Farm Lots. Sd. 4,425-33 ft.; set csg.; completing.
Richardson Pet. Co. No. 13 Cain & Secrist, Russell Farm, Lot 23. Sd. 4,425-31 ft.; set csg.; drlg. plugs.
Richardson Pet. Co. No. 2 Hoelscher, Blk. 22, Russell Farm Trs. Cg. 4,414 ft.
Richardson Pet. Co. No. 8 Quiros, Blk. 36, Sheppard Farm Trs. Drlg. 4,846 ft.
Richardson Pet. Co. No. 9 Quiros, Blk. 36, Sheppard Lots. Drlg. 5,026 ft.
Southern Minerals Corp. No. 20 Bliss, 120-ac. tr., Sur. 416. Drlg. 4,825 ft.
Stamex O. & G. Co. No. 1 Cox & Cryder, lse., Surs. 166 and 316. O.W.W.O.; old T.D. 4,643 ft.; P.B. to sdtrk. 2,500 ft.
Texon Drlg. Co. No. 6 Ocker, 200 ac. tr., Ward Surs. 402 and 316. Spddg.
Texon Drlg. Co. No. 5 Vance, Thos. Gallagher Sur. T.D. 7,000 ft.; sdtrkd. 6,-400 ft.; sd. 6,914-20 ft.; perf. csg. 6,913-17½ ft.; completing.

Stratton—Nueces County

Camp Prod. Co. No. 1 Wordner, 330 ft. E line, 1,280 ft. N line, sec. 12, Stratton Subd. Set csg. 6,111 ft.; drlg. plugs.

Sullivan—Nueces County

Invincible Oil Co. No. 1-B Elliff, 406 ft. S and W lines, 160-ac. tr., Longorio Gr. Drlg. 5,661 ft.

Plymouth—San Patricio County

Humble O. & R. Co. No. 1 Blaschke & Mayo, Lot 8, sec. 25. Sd. 5,530-35 ft.; cleaning in tanks.
Humble O. & R. Co. No. 2 Blaschke & Mayo, Lot 8, sec. 25, Fourth Addn. Loc.
Magnolia Pet. Co. No. 12 C. C. Bank, 466 ft. N and E lines, Fessenden Sur. Cg. 6,067 ft.
Plymouth Oil Co. No. 71-C Welder, sec. 71. Drlg. 1,200 ft.
Plymouth Oil Co. No. 73-C Welder, sec. 71. Set csg. 352 ft.; drlg. 710 ft.

Taft Field—San Patricio County

Esves Oil Co. No. 4 Britton, Lot 8, sec. 6, Third Addn. Set csg. 4,008 ft.; S.D.
Esves Oil Co. No. 7 Britton, sec. 6. Cg. 4,937 ft.
Humble O. & R. Co. No. 1 Blaschke & Mayo, Lot 8, sec. 25. Drlg. sd. 6,195 ft.
Humble O. & R. Co. No. 21 Mayo, Ottman Sur. Clg. in tank; T.D., sd. 3,986 ft.
Shell Pet. Corp. No. 6 Pullin, sec. 1, Second Addn. Cg. 4,957 ft.

Margo—Starr County

Dolgener et al No. 1 Garcia, 10-ac. tr., Sh. 7-B, Porc. 71. Drlg. 337 ft.

Barbacoas—Starr County

K. E. Merren et al No. 1 S.C.C.C., Blk. 34, Porc. 89. T.D. 5,380½ ft.; sd. 5,377-80½ ft.; D.&A. 3,000 ft.
K. E. Merren No. 2 S.C.C.C., Blk. 34, Lambeth Subd., Porc. 89. R.U.

Ricaby—Starr County

Moss & Heard No. 2 Ricaby, Porc. 83. (W.O.); drlg. 1,497 ft.

Rio Grande City—Starr County

Clopton & Reed No. 1 Green, Porc. 80. T.D. 4,600 ft.; S.G.; P.B. 1,681 ft.; set csg.; W.O.C.
Clopton & Reed No. 4 Tijerina, Lot 12, Sh. 14-C, Porc. 80. Cg. 1,423 ft.

Aviator—Webb County

Joe Palmer No. 1 Garcia, Sur. 463. R.U.

Cole—Webb County

Highland Oil Co. No. 1 Bruni, Surs. 7 and 8. Loc.
O. W. Killam No. 50 Bruni, C Blk. 10, Sur. 8, Foltz Subd. Sd. 3,417-31 ft.; tstd. oil; set csg.; W.O.C.

Killam—Webb County

C. H. Bailey No. 1 Garcia, Sur. 333. Spdd.
O. W. Killam No. 51 Bruni, Blk. 15, Sur. 8. Loc.
O. W. Killam No. 1 Garcia, Sur. 786. Sd. 2,010-24 ft.; S.O.

O'Hern—Webb County

Magnolia Pet. Co. No. 20 S. Benavides, Hale Subd. Comp.; 100 B.P.D.; T.D. 2,-930 ft.
Magnolia Pet. Co. No. 24 S. Benavides, Hale Subd. Comp.; est. 200 B.P.D.; T.D 2,840 ft.
Magnolia Pet. Co. No. 25 S. Benavides, Hale Subd. R.U.
H. J. Porter No. 2 Bruni, Sur. 585. D.&A. 2,966 ft.
H. M. Reed No. 4 Benavides, Blk. 299, Hale Subd. Swbg. 2,916 ft.
Starr Dev. Co. No. 1 Benavides, 330 ft. N and W lines, Sur. 173. M.I.M.
Sun Oil Co. No. 9-A Benavides, Hale Subd. Drlg. 2,687 ft.

LaSal Vieja—Willacy County

Shell Pet. Corp. No. 1 Yturria, Sh. 64, Carricitos Gr. (W.O.); set csg. 7,630 ft.; cg. sh. 8,527 ft.

Byersville—Williamson County

Taylor Ref. Co. No. 7-B Heap, H. White Sur. Spudded.

Charco Redondo—Zapata County

W. C. Bob No. 2 Martinez, S¼, Blk. 22, Quandado Gr. Sd. 670-72 ft.; set csg.; M.I.R.

Cuellar—Zapata County

Magnolia Pet. Co. No. 3 Cuellar, Sur. 245. Cg. 1,397 ft.

Escobas—Zapata County

Allied O. & G. Co. No. 6 Santos, Sh. 6, Fansler Part. Loc.
Sam Evans No. 4 Garcia, Blk. 19, Douglas Subd. Cg. 1,391 ft.
E. C. Reeves No. 1 Bustamente, Sh. 9, Fansler Part. D.&A.; T.D. 1,165 ft.
Texas Co. No. 98 Jennings, Cerrito Blanco Gr. Set csg. 1,340 ft.; W.O.C.
Zapata Corp. No. 10 Garza, Blk. 22, Douglas Subd. Comp.; 20 B.P.D.; T.D. 1,-197 ft.

Haynes—Zapata County

Evans, Mins & Long Bros. No. 1 Garza, Blk. 88, Douglas Subd. D.&A. 1,785 ft.
Valley Osage Oil Co. No. 1-B Haynes, Blk. 14, Haynes Subd. Drlg. 1,120 ft.

Lopena—Zapata County

Dalport Oil Corp. No. 1 Vela, Porc. 20. Drlg. 312 ft.

E. C. TEXAS WILDCATS

Anderson County

American Liberty Oil Co. No. 1 G. E. Gauge, Blackfoot area, B. Gilbert Sur. Top Paluxy 6,758 ft.; top Glen Rose 7,029 ft.; cg. 8,675 ft.
Tide Water Oil Co. et al No. 7 Monnig, S. Sanchez Sur., deep test, Long Lake field. To make D.S.T. at 8,944 ft.;

Angelina County

B. F. Hoffman No. 1 So. Pine Lbr. Co., B. J. Thompson Sur., C of SE¼ of Blk. 11, NE of Dibol. Fsg. 2,236 ft.

Bowie County

Thompson & Jaffie No. 1 R. Rosalind, J. Milam Sur., 3 mi. SW of Redwater. Drlg. 436 ft.
Woolley & Bently No. 1 Lumpkin. Drlg. 1,335 ft.; old T.D. 4,404 ft.

Cherokee County

J. G. Mayo Oil Co. No. 1 J. E. Bailey in J. H. Russell Sur., 2½ mi. W of Lone Star. Austin 4,435 ft.; drlg. 4,600 ft.
A. F. Richardson No. 1 F. P. O'Brien, G. S. Clapp Sur., 3 mi. NW of Rusk; 5,000-ft. test. Loc.

Falls County

H. H. Bell et al No. 1 A. Garrett, J. M. Sanches Sur. Drlg. 340 ft.

Freestone County

C. F. Lytle No. 1 R. Simmons, 23-ac. tr., R. B. Loughbotham Sur., 1 mi. S of Wortham. Drlg. 3,835 ft.
Stroude et al No. 1 P. Muliens, R. D. Sloan Sur., 6 mi. NE of Fairfield. Drlg. 400 ft.

Henderson County

Tide Water et al No. 1 McElreath & Suggett. Top Georgetown 4,990 ft.; top Paluxy 6,005 ft.; top Glenrose 6,270-80 ft.; S.D. 7,195 ft.; blew in with high gas volume and little oil; killed gas and cmtd. drill pipe for csg.

Hill County

A. N. Mabry No. 1 J. T. Jones, 1 mi. S of Mt. Calm, 80 ft. S and 103 ft. W of 43-ac. tr., Graves Sur. S.D. 650 ft.

Hopkins County

J. Carpenter Oil Co. No. 1 Gillis, between Brashear and Cumby, 830 ft. S and 150 ft. E, J. L. Worsham Sur. Drk.
Hughes & Williams No. 1 fee, 6 mi. SE of Brashear, 330 ft. N and W, Agaton Caro Sur. Loc.
Rio Oil Co. No. 1 R. A. Logan, A. Wetmore Sur. Top Woodbine 3,124 ft.; top Georgetown 3,696 ft.; drlg. 3,972 ft.

Houston County

E. B. Germany et al No. 1 E. M. Young, 330 ft. S and W, J. J. Thomas Sur., at Lovelady. Drk.
Placid Oil Co. No. 1 Elliott in J. Procella Sur., 5½ mi. NE of Grapeland. Fsg. 4,445 ft.

Hunt County

Penn Oil Corp. No. 1 R. B. Parish, C 100-ac. tr., N. Dauley Sur., 7 mi. NE of Lone Oak. S.D. 4,711 ft.
Stanolind O. & G. Co. No. 1 J. P. Hawks, R. Ragsdale Sur., near Campbell. S.D. 545 ft.
Texola Land Corp. No. 1 J. M. Goin, Jas. Merrick Sur., 2 mi. SW of Wolfe City. S.D. 40 ft.

Kaufman County

Scott & Woodside No. 1 W. and T. Nash, in J. Cortez Sur., 1 mi. E of Scurry. Drlg. 531 ft.

Lamar County

Cooper Bros. et al No. 1 L. P. Hayes, 1 mi. W of Deport, 600 ft. S of Doyle-Jondeau No. 1 Guest dry hole, Luke Roberts Sur. Drlg. 570 ft.
Lowery-Cutler No. 1 E. C. Porter, Thos. King Sur. Top Georgetown 354 ft.; S.D. 1,647 ft.

Limestone County

A. W. Phillips et al No. 1 E. M. Speight, M. Herrin Sur., 6½ mi. SE of Mexia. S.D. 3,695 ft.
Pure Oil Co. No. 16-T Kendrick, P. Varella Sur., Mexia field. T.D. 2,984 ft.; P.B. to 2,235 ft. to straighten hole.

Red River County

Roy I. Carter Drlg. Co. No. 1 J. A. Tutt, C 40-ac. tr. in D. Hart Sur., 2 mi. S of Avery. S.D. 410 ft.

Rusk County

J. G. Mayo No. 1 S. C. Sanford, 250 ft. S and 903 ft. E of 161-ac. tr., W. A. Corder Sur., 10 mi. E of Mt. Enterprise. Loc.

Van Zandt County

Humble O. & R. Co. No. 1 L. K. Riggs, W. Daniels Sur. Deep test; top Georgetown 3,725 ft.; top Paluxy 4,645 ft.; T.D. 4,-664 ft.; W.O.C. 3,952 ft.

EAST TEXAS

(Border Counties)

Cass County

American Liberty No. 1 B. E. Echlos, H. Holbert Sur. Cg. 5,860 ft.
Arkansas-Louisiana No. 1 George, Wm. R. Myers Sur. Drlg. 4,710 ft.
P. L. Hoffman No. 3 Davis, J. S. Smith Sur. Drlg. 4,800 ft.
Magnolia No. 3 Allday Est., P. Evans Sur. Comp.; flw. 554 B.P.D.; T.D. 5,968 ft.
Magnolia No. 11 J. E. George, John Collum Sur. 7-in. rng.; T.D. 6,040 ft.
Magnolia No. 13 J. E. George, John Collum Sur. Rng. 7-in.; T.D. 6,080 ft.
Magnolia Pet. No. 3 W. M. Hall, Wilson Robinson Sur. Drk.
Magnolia No. 1 Hayer & Thatcher, Jacob Carsner Sur. Cg. 6,550 ft.
Magnolia No. 9 L. Haywood, P. Evans Sur., SE cor. Comp.; flw. 20 B.P.H.; T. D. 5,970 ft.
Magnolia No. 10 L. Haywood, SW cor. lse., P. Evans Sur. Comp.; flw. 15 B. P.H.; T.D. 5,975 ft.
Magnolia No. 11 L. Haywood, SE cor. P. Evans Sur. T.D. 5,952 ft.; tstg.
Magnolia Pet. Co. No. 12 L. Haywood, P. Evans Sur. Comp.; flw. 20 B.P.H.; T.D. 5,986 ft.
Magnolia Pet. Co. No. 13 L. Haywood, P. Evans Sur. 7-in. cmtd. 5,958 ft.; T.D. 5,978 ft.; W.O.C.S.
Magnolia Pet. No. 14 L. Haywood, P. Evans Sur. 16-in. cmtd. 254 ft.
Magnolia Pet. No. 15 L. Haywood, P. Evans Sur. 16-in. cmtd. 253 ft.
Magnolia Pet. No. 17 L. Haywood, P. Evans Sur. Drlg. 2,100 ft.
Magnolia No. 6 W. M. Hall, John N. Jackson Sur. Drlg. 5,027 ft.
Magnolia Pet. Co. No. 8 Lewis and Wicks, Alex Archer Sur. Comp.; flw. 531 B.P. D.; T.D. 6,055 ft.
R. W. Norton No. 6 Davis, H. Holbert Sur. Drlg. 3,945 ft.
R. W. Norton No. 7 Davis, H. Holbert Sur. Drlg. 4,878 ft.
Ohio Oil Co No. 13 R. P. Willis, S.F.I.W. Sur. No. 1263. 16-in. cmtd. 210 ft.
Ohio Oil Co. No. 17 R. P. Willis, S.F.I.W. Sur. No. 1263. Comp.; flw. 299 B.P.D.; T.D. 5,986 ft.
Texas Co. No. 1 Chatten, Wm. R. Myers Sur. Drlg. 280 ft.
Texas Co. No. 8 McLeod, W. A. Elliott Sur. T.D. 6,111 ft.; tstg.
Texas Co. No. 2 N. A. Rambo, Cass Co. Sch. Ld. Sur. Comp.; flw. 214 B.P.D.; T.D. 6,011 ft.
Texas Co. No. 7 N. A. Rambo, Cass Co. Sch. Ld. Sur. 7-in. cmtd. 5,996 ft.; T.D. 6,022 ft.; W.O.C.S.
United Prod. Co. No. 1 Allday, P. Evans Sur. Comp.; flw. 22 B.P.H.; T.D. 5,-915 ft.
United Prod. No. 6 Baugus Unit, R. Trammel Sur. Drlg. 3,811 ft.
United Prod. No. 1 Belote, H. Holbert Sur. Drlg. 5,678 ft.
United Prod. No. 1 Bivens, John Collum Sur. 7-in. cmtd. 5,917 ft.; T.D. 5,940 ft.; W.O.C.S.
United Prod. Co. No. 2 Bivens Unit, Jas. Davenport Sur. T.D. 6,021 ft.; D.&A.
United Gas No. 3-A J. A. Bewley, H. Holbert Sur. Drlg. 5,253 ft.
United Prod. No. 2 J. Q. Clements, Wm. B. Hughes Sur. Drlg. 3,010 ft.
United Prod. No. 1 J. S. Hall, Wm. Robinson Sur. Drlg. 5,396 ft.
United Prod. No. 2 J. S. Hall, Wm. Robinson Sur. Drlg. 4,878 ft.
United Prod. No. 3 J. S. Hall, Wm. Robinson Sur. Drlg. 5,176 ft.
United Prod. Co. No. 1 Kate, Spell Unit, C. C. Sch. Ld. Sur. Drlg. 4,933 ft.
United Prod. Co. No. 1 J. W. Land, R. Potter Sur. T.D. 6,786 ft.; tstg.
United Prod. No. 1 R. O. Long, W. Robinson Sur. Drlg. 6,017 ft.
United Prod. No. 1 Terry Unit, R. Potter Sur. Comp.; gauged 7,000,000 ft. gas; T.D. 5,660 ft.
Vaughn Prod. Co. No. 1 Willis, S.F.I.W. Sur. 1263. 7-in. cmtd. 5,980 ft.; T.D. 5,-987 ft.; W.O.C.S.

Harrison County

H. H. Alvord et al No. 1 M. A. Flannagan, L. Wormack Sur. T.D. 2,440 ft.; W.O. S.R.
Geyer Oil Co. No. 1 Moore, Fields Sur. R.U.
Geyer Oil Co. No. 2-B Vincent, Davenport Sur. T.D. 2,135 ft.; S.D.
Highway 80 Oil Co. No. 1 George Powell Sur. T.D. 825 ft.; S.D.
Midfield Oil Co. No. 1 Lane & Greer, Baker Sur. T.D. 2,338 ft.; reacidized and tstg.
Patsam Oil Co. No. 2 Z. Douglas, S. Fields Sur. T.D. 2,520 ft.; tstg.

Marion County—Rodessa

Arkansas-Louisiana No. 1 C. C. Braden, T. Hanson Sur. Drlg. 910 ft.
Arkansas-La. No. 1 W. S. Ford, Charles Grayson Sur., NE cor. Ford 204-ac. tr. Comp.; flw. 50 B.P.D.; T.D. 6,181 ft.
Arkansas-La. No. 1 Laura McIntosh, Edmondson Sur. T.D. 6,140 ft.; tstg.
F. R. Freet et al No. 1 Barnham, R. Potter Sur. Drk.

Holcomb & Thomason No. 1 Lizzie Henderson, 330 ft. S and E. cor. Blk. 18, of Lizzie Henderson Subd., or 2,800 ft. S, 3,450 ft. E of NW cor. of R. Bennington Sur. Comp.; flw. 87 B.P.D.; T.D. 5,996 ft.
Hunter Co. No. 1 E. W. Fonda, A. D. S. Coy Sur. Drlg. 4,365 ft.
Morefield & Prine No. 1 Bennington, R. Potter Sur. T.D. 940 ft.; W.O.S.R.
Morefield & Prine No. 2 Potter, R. Potter Sur. T.D. 960 ft.; W.O.S.R.
Morefield & Prine No. 2-B Potter, R. Potter Sur. Drk.

Panola County

Danciger O. & R. No. 1 Tatum, A. Bissell Sur. R.U.
R. H. Dearing & Sons No. 1 Wooten Est., W. Mann Sur. R.U.
Magnolia Pet. Co. No. 2 E. A. Hull, Thos. Applewhite Sur. Drlg. 5,210 ft.
Logansport P. L. Corp. No. 1 Rushing, M. Smith Sur. T.D. 2,920 ft.; shows oil; rng. liner.

Shelby County

Wm. Redditt No. 1 Pickering Lbr. Co., SE cor. Stephens English Sur. S.D. 2,165 ft.; laying fuel line and prep. to D.D.
H. A. Stebbinger No. 1 Pickering Lbr. Co., on 160-ac. tr. in A. Hanson Sur. T.D. 5,086 ft.; shows oil; prep. run csg.

NORTH TEXAS WILDCATS

Archer County

Cargo Oil Co. No. 1 Slopansky, sec. 64, Harris Sur. Drlg. 2,210 ft.
O. P. Darsey No. 1 J. T. Longley, sec. 1839, T.E.&L. Sur. S.D. 150 ft.
J. G. Steele No. 1 Andrews, R. Rainey Sur. A-354. Drlg. 1,000 ft.

Clay County

L. T. Burns No. 1 Sanzenbacker, L. N. Sparks Sur. A-401. Spdg.
Foster Minerals Corp. No. 1 V. H. Yarbrough M. Lassiter Sur. A-288. Loc.
Walter H. Gant No. 3 C. M. Worsham, H. &T.C. Sur., Blk. 4. Drlg. 3,070 ft.
Green Mt. Oil Co. No. 1 Staggs, sec. 34, A.C.S.L. Sur. Drlg. 3,270 ft.
R. N. Hamilton No. 1 Fred Wines, sec. 4, H. Dixon Sur. A-106. S.D.O. 260 ft.

Cooke County

Denver P. & R. Co. No. 1 Solomon, W. G. Hunt Sur. A-493. Drk.
Peterson et al No. 1 J. M. Floyd, Chas. DeMorse Sur. A-305. S.D.O. 870 ft.
Sparks & Russell No. 1 C. F. Bundy, P. P. Cary Sur. A-1239. Spud. and S.D.

Denton County

Bolivar Drlg. Co. No. 1 Bentley, J. Yoakum Sur. A-1443. Core S.S.O. 1,698-1,705 ft.; test show oil; drlg. 1,900 ft.
H. Culver No. 1 Waide, J. Chisum Sur. A-278. Drlg. 1,830 ft.
A. A. Lander, Inc., No. 1 Forrester, Jean Baroux Sur. A-45. 6⅝-in. csg. 1,640 ft.; O.S. 1,648-52 ft.; tstg. est. 75 bbls.
Oil Finance No. 1 J. S. Gambill. S.D.O. 2,030 ft.
Ruwaldt & Martin No. 1 Joe S. Gambill J. B. January Sur. A-658. Drlg. 1,600 ft.

Grayson County

North Texas Oil Co. No. 1 A. M. Smith, R. M. Williamson Sur. A-1300. S.D.O. 370 ft.
Olson et al No. 1 D. R. Uitger, P. P. Cady Sur. A-301. Fsg. 1,800 ft.; D.S. at 5,751 ft.
Pete Shanor No. 1 Blair. H.L. 3,548-55 ft.; show heavy oil; treating with acid; swbg.; S.D.O.

Hardeman County

Locke & Durham No. 1 A. Schoppa, sec. 57, H.&T.C. Sur., Blk. 16. S.D.O. 711 ft.

Jack County

Big "6" Oil Co. No. 1 J. S. Callis, S.P.R.R. Sur. A-575. Drlg. 2,520 ft.
H. M. Leidecker No. 1 J. W. Padgett, E Allbritton Sur. A-1890. Drlg. 1,960 ft.
H. S. Moss No. 1 Bloodworth, G. Thompson Sur. A-612. Drlg. 2,900 ft.
Tebay & Leberman No. 1 S. E. and E. W Rankin, J. P. Thompson Sur. Spud and S.D.
Tillman et al No. 1 Jones, J. Helmstutter Sur. No. A-1269. Drk.
R. A. Westbrook No. 1 Worthington-Knox, B.B.B.&C. Sur. A-185. Pits.

Montague County

Denver P. & R. Co. No. 1 Copeland, Blk. 162, Kembro Sur. Drlg. 4,720 ft.
Gibson-Jennings No. 1 J. G. Howard, Blk. 91, K.C.S.L. Sur. R.U.R.
Moss Holmes No. 1 I. N. Monroe, F. Secrest Sur. A-665. R.U.R.
Montague Oil Co., Inc., No. 1 W. J. Bell sec. 2,882, T.E.&L. Sur. Fsg. csg.; T.D. 4,210 ft.
Selby O. & G. Co. No. 1 J. M. Batts, M. B. Tatum Sur. A-740. Drlg. 1,500 ft.
Ventex Investments, Ltd., No. 1 S. E. Bell, sec. 11, M.E.P.&P. Sur. Drlg. 2,810 ft.

Wichita County

Christie et al No. 1 Vanmeter, Blk. 35, K.W.V.F.L. Sur. Drlg. 2,250 ft.
Leo Oil Co. No. 1 Fonville, sec. 323, Waggoner Co. Sur. R.U. and S.D.
Petroleum Prod. Co. No. 73 First National Co., Blk. 29, K.W.V.F.L. Sur. 7-in. csg. cmt. 3,671 ft.; S.L. 3,720-43 ft.; treated acd.; est. 150 B.P.D. at 3,800 ft.; tstg.

Wilbarger County

Consolidated Oil Co. No. 1 Waggoner-BB, S.P.R.R. Sur. A-535. Drlg. 1,910 ft.
Gibson & Jennings No. 1 Waggoner, sec. 109, H.&T.C. Cur., Blk. 14. Drlg. 1,520 ft.; S.S.O. 1,619-20 ft.; tstg.
F. A. Lain No. 1 J. Coffee, sec. 44, H.&T.C. Sur. O.W.D.D.; drk.
Geo. L. Pace No. 1 Waggoner, sec. 45, H. &T.C. Sur., Blk. 4. Drlg. 1,000 ft.
L. Webb No. 1 Waggoner, sec. 49, H.&T. C. Sur., Blk 2. L.S.O. 2,406-28 ft.; tested wtr.; S.D.O.; recmtg. csg.

Wise County

Latex Oil Co. No. 1 C. R. Smith, J. Couch Sur. A-104. Drlg. 2,160 ft.

Young County

Ambrose & Meyers No. 1 Brogden, T. C. Wadley Sur. A-2309. Loc.
F. W. Bennett No. 1 T. E. Mathews, I. Hughson Sur. A-2162. Drlg. 2,150 ft.
Collins & Fitzwater No. 1 J. G. Castleman, sec. 72, T.E.&L. Sur. Drlg. 510 ft.
D. P. Kenyon No. 1 J. W. Daws, T.E.&L. Sur. 752. Drlg. 800 ft.
C. A. Lupton et al No. 1 Hall, B. R. Aiken Sur. A-2241. Drlg. 3,700 ft.
Pitzer & West & Lion No. 1 Mrs. F. Wray, T.E.&L. Sur. 3411. Drlg. 2,650 ft.
Pitzer & West No. 1 J. C. Nolen, T.E.&L. Sur. 606. Drlg. 3,790 ft.
T. G. Shaw Oil Corp. No. 1 J. L. McLaren, sec. 6, B.B.&C. Sur. 9-29. Drlg. 700 ft.
A. T. Strong No. 1 M. K. Graham, T.E.&L. Sur. 3410. Drlg. 2,410 ft.
C. V. Welch No. 1 Street, M. E. Criswell Sur. A-1772. Tstg. S.S.O. 3,380-88 ft.
Yorktex Pet. Co. No. 1 W. E. Steele, I.R.R. Sur. A-156. Fishing 1,600 ft.

RANGER (CENTRAL TEXAS) DISTRICT

Brown County

J. L. McMurray Hrs. No. 1 Edington, 3 mi. S Cross Cut, R. G. Milliken Sur. A-618. Drlg. 825 ft.; sand 1,313-27 ft.; prep. to shoot.

Callahan County

A. R. Forster No. 1 C. B. Snyder, NW cor NE¼ county, sec. 139, B.B.B.&C. Sur. Sand 1,070-75 ft.; U.R. 6-in.; fsg. tools 1,185 ft.

Eastland County

J. T. Anderson No. 1 Crist, 8 mi. N of Rising Star, sec. 36, Lavaca Co. Sch. Lds. U.R. 12-in. to 735 ft.; drlg. 1,560 ft.
J. A. Bearman et al No. 1 Mrs. R. L. Poe, S edge Cisco, sec. 79, H.&T.C. Sur., Blk. 4. U.R. 10-in. 1,540 ft.; fishing 1,600 ft.
F. J. Estes No. 1 Gentry, A. Popejoy Sur. S.D. 3,000 ft.
Hoffman & Page No. 1 Dodd, 5 mi. S of Ranger, Subd. 11, William VanNorman Sur. Drlg. 3,335 ft.

Jones County

Art Cox No. 1 West, 10 mi. E Noodle Creek pool, 330 ft. from E, 1,083 ft. from S, Lot 72, Godwin Subd., Dewitt Co. Sch. Lds. Moving in.
Fain & McGaha Oil Corp. No. 1 Lewis, 5½ mi. NE Hawley, sec. 37, T.&P. Sur., Blk. 15. Sand 1,928-35, est. 25 bbls.; prep. to test; sand 1,917-20 and 1,926-35 ft.; cemented pipe on bottoms, perforated 1,924-31 ft.; P.O.P.
Fain & McGaha Oil Corp. No. 1 J. H. Wheeler, 3 mi. NW Sandy Ridge pool, sec. 55, O.A.L. Sur. M.I.
Golden Pet. Co. No. 1 Wooten, SE cor. county, 330 ft. from S, sec. 4, B.A.L. Sur. R.U.
Iron Mountain Oil Co. No. 1 Carl Olander, 3 mi. N Jennings pool, 220 ft. from N and E lines, SW½ sec. 196, B.B.B.&C. Sur. Loc. for 3,000-ft. test.
A. P. Kouri et al No. 1 Winkles, 2 mi. N Nugent, J. M. Polk Sur. A-495. Drlg. 1,025 ft.
M. R. Meade et al No. 1 M. Caton, 7 mi W Lueders, 150 ft. from E sec. 4 O.A.L. Drk.
Peckham et al No. 1 Denton Co. Natl. Bank, NE cor. county, sec. 17, H.&T.C. Sur., Blk. 3. T.D. 1,172 ft.; fsg. tools; lost hole; skidding drk.
Riddle et al No. 1 J. D. Freeman, 8 mi. SW Anson, sec. 6, T.&P. Sur., Blk. 17. S.D. 1,725 ft.

Palo Pinto County

Cole & Harris No. 1 Harris NW/c county, 1,800 ft. from N, 330 ft. from E. De-LaGarza Sur. Spud. and S.D. 4,000-ft. test.
D. H. & C. Drlg. Corp. No. 1 Davenport, 6 mi. SE Palo Pinto, L. F. Margaret Sur. A-309. T.D. 2,000 ft.
Paul Garrett No. 1 Mabry heirs, NE cor. county, sec. 2,572, T.E.&L. Sur. Skidded 25 ft. E.; drlg. 250 ft.
Henry Hobbs et al No. 1 Bessie Holt, 4 mi. S. Graford, sec. 1,783, T.E.&L. Sur. S.D. 200 ft.
Earnest Lloyd et al No. 1 Bailey, 3 mi. NE Graford, sec. 2,003, T.E.&L. Sur. Drlg. 1,305 ft.

Shackelford County

Baker Oils, Inc., No. 1 Davis-Walker, SW cor. county, 220 ft. from S and W of N½ of NW¼ sec. 48, T.&P. Sur., Blk. 14. Loc.
Ben Banner No. 1 Dawson & Conway, 4 mi. NE Morris-Buie pool, C NW¼ of SE¼ sec. 176, E.T.R.R. Sur. Loc.
Forest Dev. Co. No. 1 McKeever, NW cor. county, 760 ft. from N, 660 ft. from W of sec. 14, H.&T.C. Sur., Blk. 3. Moving in.
Groover & Rose et al No. 1 Nail, 10 mi. NW Cook pool, 220 ft. from N and W line, SE¼ sec. 153, E.T.R.R. Sur. Drlg. 1,025 ft.
Ungren & Frazier et al No. 1 Snyder, 3 mi. SW Sedwick, sec. 26, L.A.L. Sur. Drlg. 3,760 ft.; black L. 3,982-4,000 ft. show oil; drlg. 4,122 ft.

Stephens County

W. T. Garret et al No. 1 Echols, 6 mi SE of Ivan, W½, sec. 10, Blk. 3, S.P.R. R. Sur. Sand 3,865-73 ft.; tested 16,750,000 ft. gas; S.D. 3,880 ft.

Tarrant County

E. E. Hoffpauir et al No. 2 W. H. Davis, 2 mi. S Arlington, H. Blackwell Sur. S.D.O. 2,140 ft.

Taylor County

Dunn & McAlister No. 1 Bowles, NE cor. county, SW¼ sec. 28, B.A.L. Sur. C.O. and tstg. 1,755 ft.; S.D.
Fields, Finley & Cherry No. 1 Hinds, 1 mi. W. Tye, Blk. 5, Jose Gabo Sur. No. 128. Drlg. 1,675 ft.
Golden Pet. Co. No. 1 C. B. Braune, sec. 15, League 144, Guadalupe Co. School Lands Sur. M.I.R.
Wm. Hix & Co. No. 1 A. H. Spencer, sec. 413, A. McBerth Sur., 5 mi. E Tuscola. Loc. for 4,500-ft. test.
Hal Hughes et al No. 1 Manahan, 5 mi. S Abilene, sec. 14, L.A.L. Sur. T.D. 1,845 ft.; S.D. 1,845 ft.

Wise County

Latex Oil Co. No. 1 Smith, 3 mi. E Bridgeport, Jas. Couch Sur., Abst. 104. S.D. 2,165 ft.

WEST TEXAS WILDCATS

Andrews County

M. S. Forgeron et al No. 1 Lockhart & Brown, C NE¼ sec. 20, Blk. A-41, P.S.L. Sur. R.U.
Sinclair Prairie Oil Co. No. 1 Emma Cowden, sec. 11, Blk. 44, Twp. 2n, T.&P. Sur. Loc.
G. F. Getty, Inc., No. 1 R. H. Lindley, sec. 8, Blk. A-46. Fsg. 4,795 ft.; 1,500 ft. O.I.H.
Hargrove et al No. 1 Riordan, NW¼, sec. 10, Blk. A-44, P.S.L. Sur. W.O.C. 216 ft.
Landreth Prod. Co. No. 1 L. Jones, sec. 11, Blk. A-42, P.S.L. Sur. W.O.C. 147 ft.
Standard of Texas No. 1 Gray Estate, sec. 21, Blk. A-42, P.S.L. Sur. Drlg. 3,915 ft.

Bailey County

E. L. Wilson et al No. 1 Blank, Labour 4, Abner Taylor League 700, M.I.R.
O. B. Greathouse No. 1 W. E. Friend, sec. 3, W. Allen Sur. R.U.
J. C. Hill et al No. 1 Ely, sec. 38, Blk. 71, P.S.L. Sur. Cellar.
Wilson et al No. 1 State Capitol. Loc.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. S.D. 4,026 ft
Storey No. 1 Wilson. Drlg. 1,970 ft.

Cochran County

Bond & Harrison No. 1 Dean, Labour 1, League 85, Greer Co. School Lands. R.U.S.T. 4,515 ft.
Pete Wiggins et al No. 1 C. Slaughter Dean, C Lab. 26, League 92, Lipscomb Co. School Ld. Loc.

Coke County

H. E. Ogden et al No. 1 Rawlins. Spd. and S.D.
Plymouth Oil Co. No. 1 Mrs. Mary Hanna, sec. 252, Blk. LA, H.&T.C. Sur., 1½ mi. SW of Blackwell. T.D. 970 ft.; U.R. csg.

Crane County

Gulf Oil Corp. No. 2 McKnight, sec. 9, Blk. B-21. Drlg. 4,506 ft.
Sinclair Prairie Oil Co. No. 1 University, sec. 13, Blk. 35. T.D. 3,548 ft.; swbg. and flwg.

Crockett County

Superior Oil Co. of Calif. No. 1 J. S. Todd, C SE¼ sec. 55, Blk. UV, G.C.&S.F. Sur. Drlg. 3,034 ft.

Dawson County

E. L. Wilson et al No. 1 Texas Ld. & Mtg. Co., sec. 45, Blk. M, E.L.&R.R. Sur. Drlg. 350 ft.

Edwards County

Dan Auld et al No. 1 Rigsby, sec. 16, Blk. OK, G.C.&S.F. Sur., 15 mi. NE of Rock Springs. S.D. 3,040 ft.

El Paso County

Tri-State Oil Co. No. 1 Kinkel. Drlg. 2,743 ft.

Fisher County

L. A. Daniels et al No. 1 J. J. Nickless. Fsg. 2,910 ft.
Martin & Brubaker No. 1 Brown, W. E. Richardson Sur., sec. 4, Blk. R. T.D. 2,959 ft.; set csg.
Southern Oil Co. No. 1 Robinson, sec. 172, Blk. 2, H.&T.C. Sur., 2½ mi. NE of Raton. Drlg. 3,215 ft.

Gaines County

A. G. Carter No. 1 A. L. Wasson et al, sec. 48, Blk. AX, P.S.L. Sur. T.D. 3,092 ft.; ele. 3,549 ft.; fsg. csg.
A. G. Carter et al No. 1-B A. L. Wasson, 2,310 ft. N and W, sec. 44, A.X.P.S.L. Sur. Loc.
T. N. Sloan et al No. 1 Barber, NE cor. sec. 19, Blk. A-28. P.S.L. Sur. R.U.R.
Wentz Oil Co. No. 1 Dalmont. W.O.C. 218 ft.

Garza County

S. Caprito No. 1 Post Estate, sec. 230, Blk. 5, K. Aycock Sur. S.D. 3,035 ft.

Hockley County

R. F. Duggan et al No. 1 Yellow House Land Co., cen. Labour 11, League 718, State Capitol Lds. Loc.
Texas Co. No. 1 B. Slaughter, Labour 83, League 38, Zavala Co. Sch Lds. T.D. 5,030 ft.; P.B. to 5,023 ft.; acd. 2,000 gals.; flwd. 330 bbls. in 24 hrs.; to reacidize.

Howard County

Moore Bros. No. 1 T.&P. Land Trust, sec. 33, Blk. 20, Twp. 1s, T.&P. Sur. T.D. 2,725 ft.; set csg.
Shasta Oil Co. No. 1 Cora Echols, sec. 5, Blk. 15, T.&P. Sur. 8-in. stuck 2,440 ft.
R. A. Westbrook et al No. 1 G. T. West, sec. 48, Blk. 33, Twp. 1n, T.&P. Sur. S.D. 1,460 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp. 6. Fsg. 3,040 ft.

Loving County

Barnett Pet. Corp. No. 1 W. D. Johnson, 2,200 ft. N and 440 ft. E, sec. 12, Blk. 56, Twp. 1, T.&P. Sur. Loc.
Finley et al No. 1 W. D. Johnson, sec. 24, Blk. 56, Twp. 1, T.&P. Sur. T.D. 180 ft.; to set csg.
Mason Oil Co. No. 3 Kyle, sec. 20, Blk. 55, Twp. 1, T.&P. Sur. Drlg. 3,076 ft.
Stanolind O. & G. Co. No. 1 M. Kyle, sec. 20, Blk. 55, Twp. 1, T.&P. Sur. Drlg. 2,220 ft.
Woodley Pet. Co. No. 1 Kloh, 1,980 ft. S and 330 ft. W, sec. 21, Blk. 55, Twp. 1, T.&P. Sur. Loc.

Mitchell County

Mitchell O. & G. Co. No. 1 Z. Morrison, sec. 36, Blk. 29, Twp. 1n, T.&P. Sur. T.D. 504 ft.; set csg.

Pecos County

Adams & Black No. 1 Masterson, sec. 71, Blk. 10, H.&G.N. Sur. Drlg. 650 ft.
Bahan & Rhodes No. 1-B Bonebrake, sec. 116, Blk. 8, H.&G.N. Sur. S.D. 2,502 ft.
Cannon & Cannon No. 1 University, sec. 2, Blk. 20. Drlg. 150 ft.
Dobbs No. 1 University, sec. 30, Blk. 18. Drlg. 150 ft.
Humble O. & R. Co. No. 1 E. M. Gray, sec. 94, Blk 11, G.H.&S.A. Sur.; 5,000-ft. test. Fsg. 3,616 ft.
K. Kimberlin No. 1 Humble-Young, 2,310 ft. SE and 330 ft. NE, sec. 49, Blk. 10, H.&G.N. Sur. Cellar.
E. R. Minshall No. 1 Banker, sec. 25, Blk. 146, T.&St.L. Sur. T.D. 3,005 ft.; P.B. to 2,974 ft.; swbg. and tstg.
W. Y. Penn No. 1 Tipton, 2,310 ft. S and 330 ft. E, sec. 85, Blk. 8, H.&G.N. Sur. Loc.
Pinerock Oil Co. No. 1 White & Baker, SE cor. sec. 5, Blk. 207, T.C. Sur. Drlg. 1,322 ft.
S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. T.D. 4,910 ft.; M.I. rotary.
Trans-Pecos Oil Co. No. 1 Gallagher, sec. 9-51-10, T.&P. Sur. Drlg. 1,400 ft.
Young No. 1 Perry. Fsg. 300 ft.

Presidio County

L. C. Brite No. 4 fee, C NW¼ sec. 113, Blk. 12, G.H.&S.A. Sur. No report.
A. H. Main No. 1 Greenlee, sec. 40, Blk. 347, 13 mi. NE of Marfa. No report.

Reagan County

Bahan & Rhodes No. 1 Kloh, sec. 37, Blk. 37, Twp. 5s, T. & P. Sur., NW cor. of county. Drlg. 3,460 ft.
K. E. Sherman et al No. 1 W. E. Friend, SW cor. sec. 3, Wm. Allen Sur. Spdg.

Reeves County

Grisham & Hunter No. 1 Montgomery, sec. 1, W. R. King Sur. S.D. 3,870 ft. W.O.S.T.

Runnels County

K Z Oil Co. No. 1 B. Fletcher, 114 ft. NW and 190 ft. from SW, E. C. Good Sur. Drk.
Price & Kramer No. 1 Giesecke, Blk. 227, Hughes Sur. T.D. 200 ft.; str. rmg.
Stevens & Glover No. 1 Fowler, sec. 150, E.T.R.R. Sur., 2 mi. NE of Ballinger. Drlg. 242 ft.

Schleicher County

J. M. Cooper No. 2 B. Page, sec. 40, Blk. L, G.H.&S.A. Sur. Drlg. 188 ft.
Mangus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, W. W. Russell, grantee. Elev. 2,209 ft.; T.D. 6,527 ft.; P.B. 5,912 ft.; acidized 7,500 gals.; no result.

Scurry County

Bristow & Cantrell No. 1 Tomlinson, sec. 122, Blk. 97, H.&T.C. Sur. Drlg. 2,564 ft.
E. L. Goos No. 1 Henderson, sec. 148, Blk. 97, H.&T.C. Sur. Drlg. 525 ft.

Terry County

Crump & Corrigan No. 1 Lewright, 660 ft. NE, sec. 1, Blk. C-37, P.S.L. Sur. To deepen from 4,975 ft.

Ward County

Magnolia Pet. Co. No. 1-55 Sealy, sec. 55, Blk. F, G.M.M.B.&A. Sur. Drlg. 2,844 ft.
L. F. White et al No. 1 Rector-Monroe, E cor. sec. 3, Blk. 1, W.&N.W. Sur. Drlg. 4,264 ft.

Winkler County

Richardson No. 1-B Walton, sec. 20, Blk. 77, P.S.L. Sur. Drlg. 3,277 ft.
York & Harper et al No. 1 Gunter & Munson, sec. 7, Blk. C, G.M.M.B&A. Sur. Drlg. 4,715 ft.

Yoakum County

Bahan et al No. 1 Shook Est., sec. 420 Blk. D, John H. Gibson Sur. T.D. 2,372 ft.; W.O.C.
Magnolia Pet. Co. No. 1 Mrs. M. E. Taylor, sec. 201, Blk. D, John H. Gibson Sur. Elev. 3,607 ft.; S.D. 2,370 ft.; top Anhy. 2,325 ft.

PERSONAL

J. A. LA FORTUNE, vice president of Warren Petroleum Company, Tulsa, accompanied by MRS. LA FORTUNE, returned last Saturday from Paris, France. On the trip, which combined pleasure with business, Mr. La Fortune talked with officials of Compagnie Francaise de Raffinage, who expressed particular interest in the United States as a source of crude oil supplies for overseas shipment. On account of delay in delivery of material, construction of buildings for the Paris Exposition is a month behind schedule. Mr. and Mrs. La Fortune visited the Rheims and Chateau Thierry battlefields.

BENJAMIN H. ANDERSON, engineer, Continental Oil Company, has recently been transferred to Parkerton, Wyo.

WILLIAM F. LOWE, secretary of the Natural Gasoline Association of America, Tulsa, was elected temporary chairman of the new chapter of the Society of Automotive Engineers. The other officers are LAWRENCE MORGAN, Buda Engine Company, Tulsa, secretary; DON LeR. DRESSER, president, Marmon-Herrington Sales, Inc., chairman, and JOSEPH LISTON, Oklahoma University, Norman, secretary of membership committee; DAVE PROUDFOOT, Phillips Petroleum Company, Bartlesville, Okla., chairman of papers and meeting committee. A dinner meeting has been called for May 18 at Mayo Hotel, Tulsa, when permanent officers will be elected.

O. W. MARCH, vice president and treasurer of Signal Oil Company, has left Los Angeles, Calif., on a business trip to New York and will be gone about two weeks.

A. J. ANDERSON, W. H. SHAW, A. BURRELL and H. W. KNIGHT, all of Toronto, Ontario, and JAMES LYONS, of Sault Ste. Marie, Ontario, were recently reelected directors of the Ajax Oil & Gas Company of Toronto.

H. D. McCRACKEN, vice president of the Illinois Pipe Line Company, Fort Worth, Tex., who has been in the oil business for the past 45 years, after starting with the Indiana Pipe Line Company at Chicago, Ill., is retiring May 1 to his Eagle Mountain farm near Fort Worth.

H. O. SEARS, of Tulsa, has resigned from the position of factory representative in charge of the development of centrifugal processes in connection with pipe line and refinery operations in the Southwest. He is joining the new firm of Alliger & Sears Company, sales engineers, Houston, Tex.

CHESTER M. GARDINER, petroleum geologist and valuation engineer, has moved his offices to the West Seventh Street Building, Los Angeles, Calif.

E. LLOYD BYERS, assistant manager, Oklahoma and Kansas district, Parkersburg Rig & Reel Company, has recently returned to Tulsa from a trip to Parkersburg, W. Va.

MAX BALL president, Abasand Oils, Ltd., has recently moved from Denver, Colo., to Edmonton, Alberta, Canada, and will make his home there while developing the Athabaska oil sands properties.

ED WHITE, in the petroleum engineering department of the Gulf Oil Corporation, Odessa, Tex., has resigned to accept a similar position with the Landreth Oil Corporation, in the same area.

S. F. SHAW, consulting engineer to the Westgate Oil Company, Oklahoma City, Okla., has returned from Canada where he was investigating production methods in the Turner Valley oil field, near Calgary, Alberta.

BURR McWHIRT, valuation engineer for Shell Petroleum Corporation, at Houston, Tex., has resigned to join the Bureau of Internal Revenue, income tax unit, oil and gas section, as an engineer in Washington, D. C.

MAURICE BRADLEY, formerly foreman in charge of sampling, measuring and testing for the Oklahoma Pipe Line Company, has gone to Carupano, Venezuela, where he will enter the employ of Standard Oil Company of Venezuela in the production division. Mr. Bradley's family accompanied him.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Storms, "the like of which were never seen in this part of the country before," took heavy toll of life and property damage in the Mid-Continent, the rains, described as without parallel, rendering the oil field practically inoperative.

Kansas and Oklahoma led in completions during the month with 557 wells with 18,074 barrels production; Pennsylvania grade fields having 380 completions with 18,341 barrels. Texas-Louisiana led in production with 23,704 barrels from 114 completions.

20 YEARS AGO

The Federal Trade Commission reported to the senate on one of its numerous investigations of the oil business but admitted in effect that the price of gasoline reflected production and consumption trends.

George H. Jones was chosen a member of the board of Standard Oil Company (New Jersey) of which he was chairman at the time of his death.

Good wells in Elk County were reported making that district the champion field in Kansas.

10 YEARS AGO

The Pleasant Hill field in northern Sabine Parish, Louisiana, was opened by two good wildcat producers.

The Saginaw field in Michigan was running full blast with fear of townlot development.

Edwin B. Reeser, president of Barnsdall Corporation, wrote to The Oil and Gas Journal "a challenge to the oil industry" declaring overproduction must be regulated by cooperative or government supervision and urging leaders to develop a plan. It was supported by an editorial, "It Can Be Done."

L. B. Denning, president of the Lone Star Gas Company, moved the executive offices from Pittsburgh, Pa., to Dallas.

FRANK R. CLARK, vice president and chief geologist, Ohio Oil Company, Tulsa, was in Kansas for a few days recently.

FRANK ROUSH recently returned from spending the winter months in Florida and is now making his home in Saginaw, Mich.

N. R. CRAWFORD, general manager, Dowell, Inc., Tulsa, has been at the home office in Midland, Mich., recently on business.

COL. W. THOMAS KNIGHT, president of the Consolidated Oil Company, Amarillo, Tex., is spending a month in Hot Springs, Ark., on a vacation.

W. T. ATKINS, vice president in charge of marketing, Skelly Oil Company, Kansas City, Mo., was at company headquarters in Tulsa on official business.

JOHN M. CRAWFORD, chairman of the board, and CASPER RUF, vice president and general manager, Parkersburg Rig & Reel Company, Parkersburg, W. Va., were in Tulsa last week.

LYNN L. HARDEN, geological scout for the Sinclair Prairie Oil Company, has been transferred from Corpus Christi to Eastland, Tex. His successor at Corpus Christi is ADRIAN HEATON, of Carthage, Mo.

DR. VIRGIL R. D. KIRKHAM, of Saginaw, Mich., consulting geologist and independent operator in several Michigan fields, will discuss the future possibilities of oil and gas production in Michigan at the annual meeting of the eastern district of the American Petroleum Institute in Columbus, Ohio, May 6 and 7.

PARAGRAPHS

G. A. DOBBIE, of Toronto, Ontario, has been elected a director of British American Oil Company.

PAT DUNCAN, assistant to HOWARD BOYD, chief scout of the Magnolia Petroleum Company at Dallas, Tex., has been assigned to the scouting department at Roswell, N. Mex. He will be succeeded in the Dallas office by J. M. PHILLIPS. W. K. BREWSTER, who has been scouting the New Mexico areas out of Roswell, has been transferred to the Decatur, Ill., territory.

NEW appointments in the Richfield Oil Company include H. E. BRITZMAN, assistant to the president; H. M. GALLAGHER, personnel director; CHARLES STARK, manager of property tax department; B. J. MAHAFFY, purchasing agent; D. W. LARNER, manager of insurance and safety department and HOWARD C. CAGLE, manager of public relations. R. W. RAGLAND, formerly assistant general counsel of Consolidated Oil Corporation has been appointed general counsel of Richfield Oil Corporation.

W. L. JAMES, purchasing agent, Stanolind Oil & Gas Company, has been in Chicago on a business trip.

H. J. MORLANG, vice president, National Tube Company, Dallas, Tex., visited the Tulsa office of the company.

A. E. CROCKETT, manager of the bureau of instruction, Jones & Laughlin Steel Corporation, Pittsburgh, Pa., stopped off in Tulsa on a tour of the Southwest.

M. D. ANDERSON, oil producer, is incorporating an oil firm to be named J. & D. Development Company, to which he will assign properties located in Anderson, Wilson and Chautauqua counties, Kansas.

LEE MINTER, formerly production engineer for Stanolind Oil & Gas Company on the Gulf Coast, has resigned to become chief petroleum engineer for the Belmont Quadrangle Drilling Corporation at Bradford, Pa.

FRANK T. CLARK, district geologist; his assistant, GORDON HEID; JOHN S. HEROLD, geological scout, and JOHN S. MADDOX, land man, have moved from San Angelo to Odessa, Tex., where the Empire Oil & Refining Company has moved its land and geological offices in that district.

A. F. BUCK of Fort Worth, Tex., has been advanced to the managership of the southwestern district of the Sinclair Refining Company, succeeding W. T. DINKINS, who resigned to become connected with the Richfield Oil Corporation in California. Mr. Buck began his services with the Sinclair interests 20 years ago in Chicago, later being transferred to Tulsa for two years.

HAROLD THOMPSON, employed in the Bothwell, Ontario, oil field, is in a hospital at Chatham recovering from a fractured ankle, crushed by a falling pulley.

CARROLL V. SIDWELL, chief engineer, British American Oil Producing Company, Tulsa, has resigned to become associated with JOHN LEAVELL, independent operator, with headquarters in Tulsa.

H. P. TAUBMAN, executive vice president and general manager of the Bethlehem Supply Company, Tulsa; C. C. CRIDER, vice president, Dallas, Tex.; V. W. BAILEY, vice president in charge of branches, Tulsa, and ED V. SEAMAN, manager of the Houston, Tex., district office, have gone to Youngstown, Ohio, to make a trip through the Republic Steel Corporation mill there.

G. H. BLANKENSHIP, oil operator, has returned to the field of action in Illinois after spending a week end at his home in Tulsa. As former head of the land department of a major oil company and while acting independently in recent years, Mr. Blankenship has participated in many of the fast lease plays in the Mid-Continent fields but declares that the current activity in Illinois is the largest single lease campaign he has ever seen. Other Oklahoma operators who have been attracted to the Illinois sector agree with him. He is dividing his time between the Centralia and Mattoon areas in Illinois.

He Can Get Team Work

One reason W. W. Hay is manager of pipe line operations for Union Oil Company is that he has the knack of getting team work. Bill—that's what he likes to be called—joined the Union staff in 1915 as a clerk in the comptroller's department and was transferred to San Luis Obispo the next year as dispatcher. Two years later he was chief clerk and chief dispatcher, in which position he began to show the capacity for management which was to carry him to higher responsibilities. In 1923, when William Groundwater, now director of transportation, was shifted to Los Angeles he took Bill with him as chief clerk in the transportation department. In the same year Bill was advanced to superintendent of the Los Angeles pipe line. Here the young man had an opportunity to develop his managerial ability and he made the most of it. He coordinated a complex system and at the same time built up a cooperative spirit that brought his department to a high state of efficiency. The result was that in 1936 he was made manager of all pipe line operations.

W. W. HAY

Mr. Hay was born in Glasgow, Scotland, spent his youth in the north of Ireland and went to Los Angeles in 1914. He is active in community work. While located in Brea, Calif., he was a trustee of the high school board, served as chairman of the Orange County grand jury for a term and won the reputation of being an all-round good citizen.

W. H. CAREY, chief geologist for Erle P. Halliburton Oil Company, Duncan, Okla., was in Shreveport, La., last week on a business trip.

D. P. CRITTENDEN, vice president of Grogan Oil Company and associated companies, Shreveport, La., is on a business trip in Germany and other European points.

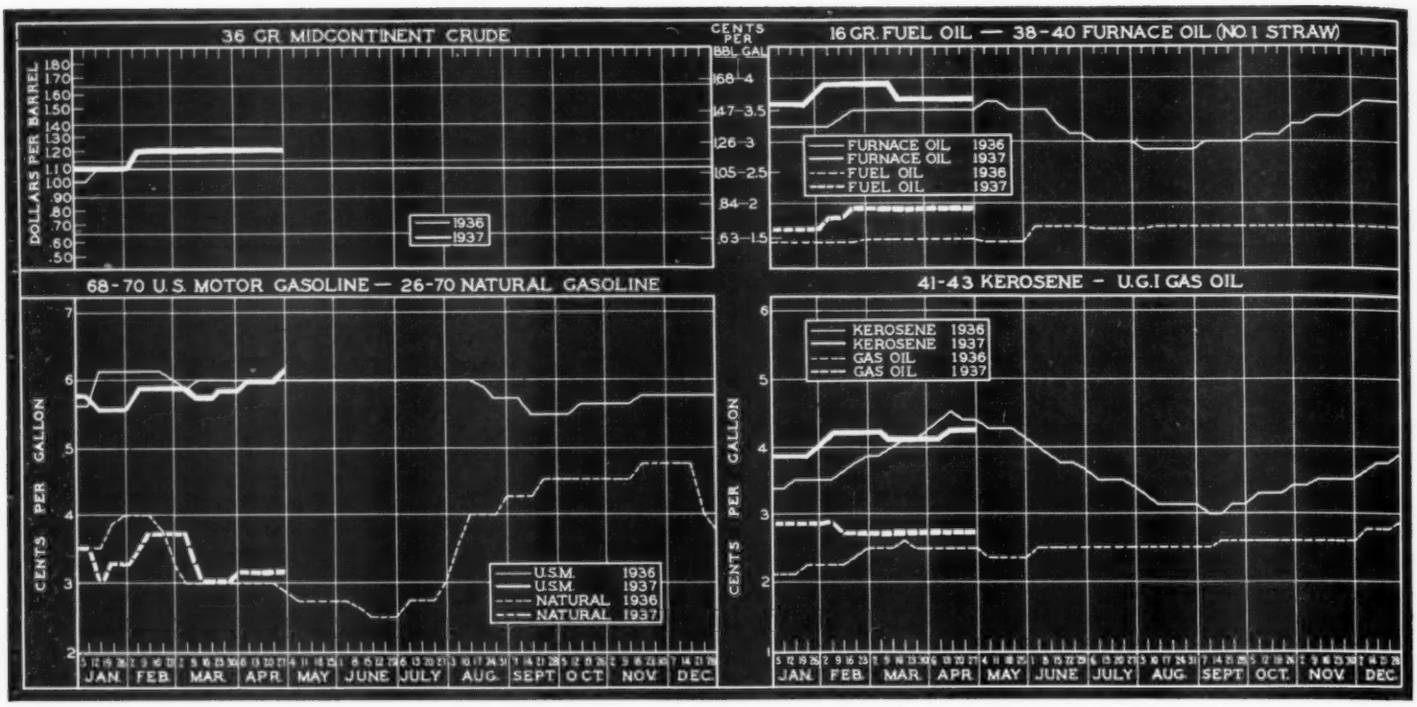
F. E. STANLEY, who formerly was connected with the Texoma Natural Gas Company, Fritch, Tex., now is associated with the Sheehan Pipe Line Construction Company, with headquarters at Tulsa.

GEORGE W. HOLLAND, director of the Petroleum Conservation Division of the department of the interior, was in Kilgore and Corpus Christi last week, inspecting the East Texas Federal Tender Board, and on other routine matters in Texas.

FREEMAN W. BURFORD, president of East Texas Refining Company of Dallas and Longview, Tex., is in Shreveport, La., attending to business matters after successfully bidding on oil lands in the North Rodessa field held by the government.

ISAIAH LEEBOVE, president of the Mammoth Producing & Refining Corporation, this week started moving general offices from the Vernon field, Isabella County, to Clare, Mich. SAM BRONSTEIN, of Clare, is in charge of the Clare offices at present.

L. G. HUEY, scout for the Magnolia Petroleum Company, with headquarters at Tyler, Tex., has been transferred to Shreveport, La., and C. A. POUNDS will succeed him at Tyler. W. B. JACKSON, who has been scouting out of Shreveport, has been made a land man.



Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)

Gasoline Stronger in Group 3 Market and Naturals in Better Demand

By T. F. SMILEY

The Group 3 market bore a lifeless look this week. Not because of waning demand for oil products, but because the refiners and marketers who usually keep trading interests at a high level had moved over to Hot Springs, Ark., for the Western Petroleum Refiners Association convention. Signs were plentiful that on their return they would find gasoline firmer and some of the other products, notably tractor fuels and the higher-gravity distillates, maintaining their strength.

Gasoline Demand Broadening

Notwithstanding rains and other species of unfavorable motoring weather in some areas, motor fuel demand was broadening and quotations were stiffening, with prospects of a continued upward trend as highway and weather conditions improve. Among other factors significant of an excellent summer business for gasoline, lubricating oils and tractor fuels, observers point to prospects of heavy crops in the Middle West and Southwest which if they materialize will provide the basis for brisk buying in agricultural regions.

Adding to the better tone of the Group 3 gasoline market is the improvement in the eastern territory. A lagging demand for output from Pennsylvania refineries in recent weeks had resulted in some of it seeking outlet in districts ordinarily supplied by refiners in the Mid-Continent or Chicago areas. This competition is disappearing.

Inability of buyers in the past week to fill their needs for third-grade gasoline in East Texas afforded fresh evidence of the change which has taken place in that area, once the scene of wild overproduction. Third-grade material is believed to comprise about one-third of the present total gasoline output of that area. Refiners for the most part are making a cracked or leaded gasoline of 63 to 68 octane. The change has come about through the steadily dwindling demand for third-grade material in the northern markets. Such demand as still remains, however, reaches its height in warm weather, and the difficulty in filling orders right now discloses the extent to which refiners have discontinued making it.

Informed observers say the demand for third-grade gasoline at this juncture represents 10 to 13 per cent of the total consumption. This compares with an estimated 16 to 18 per cent in 1936. It is declared further that the operator of an ordinary skimming plant, devoted to making gasoline, kerosene, distillates and fuel oil, cannot sell low-octane gasoline at current tankcar prices at a profit.

There was a general raise of an eighth-cent in gasoline quotations in the Group 3 area this week, with predictions that they would go still higher in a short time.

Naturals Looking Up

Quickened demand for natural gasoline was reported, with higher prices prevailing in Texas and firmer quotations in Oklahoma. Most of the natural produced is moving to the Gulf Coast, either for use by refiners in that territory or for shipment coastwise or overseas. The spread between Oklahoma and Texas prices is likely to prevail until Mid-Continent refiners begin to buy for winter specification gasoline. Until then the northern demand is not expected to get Oklahoma prices in line with Texas. Most of the spot buying of 26-70 at the present time is for blending with naphtha or third-grade refinery gasoline.

Tractor fuels are now in their season of heaviest demand. Kerosene and the higher-gravity distillates, readily convertible to tractor use, are benefiting from the lively business in this division. Demand for the heating oils has dropped to a low point. Lubricants and greases are getting an active play, some refiners reporting their sales exceed those of any year in the past. Wax was holding well, with no change in price.

Refined Oil Market Barometer

A tightening market for gasoline was reported as favorable motoring weather broadened consumption, with prices pointing upward. Tractor fuels now in their season of heaviest consumption, with kerosene and the lighter distillates sharing in the demand. Lubricants firm. Natural gasoline output is being well taken care of by current requirements, with quotations slightly higher.

MID-CONTINENT. Gasoline up. Naturals steady. Tractor distillates in lively demand.

EAST COAST. Light fuel oils and diesels advanced. Gasoline prices firmer.

GULF COAST. Gas oil strong. Gasoline extremely tight. Kerosene unsteady.

CALIFORNIA. Gasoline irregular. Gas oil and fuel oil firm.

PENNSYLVANIA. Gasoline up. Kerosene off. Neutrals strong. Bright and cylinders quiet.

CHICAGO. Gasoline vigorous, with prices rising. Heating oils holding well.

Gasoline Prices in New York Harbor Respond Quickly to Lively Demand

By H. STANLEY NORMAN

NEW YORK, Apr. 27.—Demand and price for tankcar and barge gasoline in the north Atlantic Coast district gave some indication last week of what may be expected when the summer motoring season reaches its peak. Favored by a clear, warm week-end April 17 and 18, refiners and distributors were called upon for abundant replacement stocks throughout the past week. Gasoline prices in New York harbor territory responded immediately to spirited demand. Published tankcar prices by major companies remain unchanged, but the catch-as-catch-can buying was done during the week on a higher plane, with sellers demanding 7 cents a gallon for 65-octane gasoline in barges and 7⅛ cents a gallon in tankcars. The prices currently prevailing in the open market are approximately an eighth to a quarter of a cent above figures at which sales actually were closed through March and earlier in April.

Although other marketers have not advanced heavy industrial fuel oil prices to meet Tide Water Associated's posting of $1.50 a barrel for Bunker C and $1.70 a barrel for No. 5 fuel, there probably will be at least a partial acceptance of the raise shortly. Some marketers feel that a raise of 10 cents a barrel for Bunker C fuel oil to $1.30 would be more in line with seasonal conditions. There appears little doubt, however, that heavy fuel oils are in firm condition and that prices are in position to benefit appreciably by increased summer ocean traffic and expansion of manufacturing operations.

High pourpoint neutral lubricating stock and steam-refined, 630-flash bright stock are the strong items on Western Pennsylvania refiners' lists, although improvement in the U. S. Motor gasoline situation continued through last week.

Neutral oil prices were up 1 to 1½ cents in some quarters, but the general tone of the bright stock market was dull and tendency was to shade prices. The 630-flash, steam-refined cylinder material which generally is quoted at 25 to 25½ cents a gallon for domestic trade, is the outstandingly strong item in both domestic and export business. To the export trade (f.a.s. in barrels) 630-flash cylinder stock generally is quoted at 32 to 32½ cents a gallon. The No. 8 color, Pennsylvania Grade bright stock is offered to exporters at 32½ to 33 cents. Export quotations on neutral oil are up from 1 cent to 1½ cents with 200-3 color material quoted at 32½-33 cents and 150-3 color stock at 29 to 29½ cents.

To the domestic trade, 150-viscosity material at 750°, pour test 25, is up a half cent to 22½-23 cents a gallon in tankcars. The 200-viscosity material at 70°, pour test 25, is quoted at 27-27½ cents a gallon in tankcars for domestic movement, an increase of a cent over prices prevailing earlier in the summer season.

In connection with the freer movement of gasoline, service station prices in metropolitan New York were increased generally to $1.05 for 6 gallons, compared with previous offerings of the same quantity for 98 cents. There are a few stations clinging to the older prices, but with improvement in volume the quotations to consumers are expected to smooth out to a more profitable level for the individual station owners or lessees. Outside of New York, in most directions excepting New Jersey, prices at pumps are 19 and 21 cents a gallon for "house brand" and premium fuels respectively. Several suppliers in New York harbor advanced their tankcar and barge prices on gasoline last week one-quarter of a cent, but they were the ones who previously had declined to meet higher postings of the larger sellers. There remains a little 65-octane gasoline available in tankcars at New Jersey terminals for 7 cents a gallon, but the open-market trading is strictly limited and the supply available is restricted to a few cars for immediate delivery.

In view of the tendency to advance gasoline prices on the Gulf Coast and with no slackening in the tanker charter market, higher quotations appear inevitable in the northern Atlantic district. Much of the gasoline which is now available at shaded prices will be absorbed by the trade within a week and replacements apparently will demand a higher market level in the immediate future. The first result of tighter conditions in the gasoline market probably will be adjustment of service station prices in New York, where discounting to dealers has made possible the continued low quotations under canopy. Practically in all cases business of dealers supplying wholesalers in New York harbor territory exceeds the quantity they can handle by long-term charter boats, and they are forced into the higher open tanker charter market for their excess. Supplying of a part of the requirements by open charter tankers is increasing the overall cost of products moved coastwise for consumption in the northeast.

Strength in the gasoline market in New York harbor and at Gulf Coast ports is marked. Some Gulf Coast suppliers are reported willing to load 65-octane gasoline at 6.25 cents a gallon, but most are now asking 6.375 cents. Willingness of Gulf Coast refiners to move their asking prices up, commensurate with seasonal demand indicates to the trade at large that heavy stocks built up during the winter are in strong hands and that they actually constitute no hazard to immediate benefit from summer demand.

Interest of exporters on the Gulf Coast continues centered on gas oil, with the bulk of contracts closed on the basis of 3.875 cents a gallon for 30 plus translucent material. Out of four cargoes of gas oil sold on the Gulf Coast last week for May, June and July loading, all excepting one brought 3.875 cents a gallon. The exception was a price of 3.85 cents covering one cargo. Inquiries from export dealers are continuing, but some refiners who have participated extensively in this business for the past two months are unable to quote for additional future delivery. Another deterrent to more extensive export business is the lack of vessels. Some negotiations for cargoes are being carried forward on a basis of if, as and when boats are available.

Export buyers are also active in the lubricating oil market and are purchasing freely of cylinder oils, particularly in the Pennsylvania district. Movement in domestic traffic against contracts placed during the winter are also said to be picking up. Considering the season, movement of stocks for summer oil blends is regarded exceptionally heavy.

The slack appears to have been taken out of the U. S. Motor gasoline market in western Pennsylvania, which was a weak link in the general condition last week and the week before. Sufficient intra-district business has developed to absorb production. Most of the distress material moved two weeks ago into neighboring states which

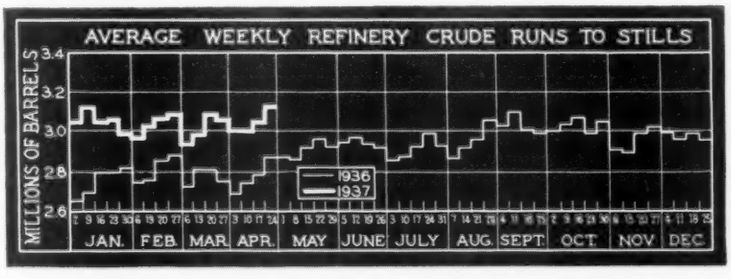
(Continued on Page 114)

A. P. I. Weekly Refinery Statistics

Week Ending April 24, 1937

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline (bbls.)	Gas oil and fuel oil (bbls.)
East Coast	100.0	543,000	18,804,000	5,854,000
Applachian	88.4	110,000	2,818,000	530,000
Indiana, Illinois, Kentucky	92.1	434,000	14,407,000	4,477,000
Oklahoma, Kansas, Missouri	84.6	310,000	9,537,000	2,866,000
Inland Texas	54.3	110,000	2,234,000	1,255,000
Texas Gulf	95.5	692,000	10,710,000	6,370,000
Louisiana Gulf	96.3	125,000	1,489,000	1,616,000
North Louisiana and Arkansas	63.7	55,000	473,000	304,000
Rocky Mountains	69.7	41,000	2,033,000	719,000
California	90.9	482,000	14,380,000	67,613,000
Total reported	88.8	2,902,000	76,885,000	91,604,000
Estimated unreported	.....	223,000	5,418,000	2,496,000
*Estimated total	.....	3,125,000	82,303,000	94,100,000
*Estimated total previous week	.....	3,055,000	82,703,000	94,472,000
*April 25, 1936	.....	2,875,000	72,537,000	96,802,000

*Bureau of Mines basis, currently estimated.



Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

April 10, 1937	297,468,000 barrels
April 3, 1937	297,374,000 barrels
April 11, 1936	314,033,000 barrels

RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of April 27, 1937

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr. tax	Gasoline Inc. tax	Kero. tank-wag.
Chicago, Ill.	16.0	14.0	4.0	10.1
Decatur	16.0	14.5	4.0	10.1
Joliet	16.0	14.5	4.0	10.1
Peoria	16.0	14.5	4.0	10.1
Quincy	15.8	14.3	4.0	9.9
Davenport, Ia.	16.0	14.5	4.0	10.1
Des Moines	15.8	14.3	4.0	9.9
Mason City	16.2	14.7	4.0	10.3
Sioux City	16.0	14.5	4.0	10.1
Duluth, Minn.	16.8	15.3	4.0	10.9
Mankato	16.4	14.9	4.0	10.5
Twin Cities	16.4	14.9	4.0	10.5
La Crosse, Wis.	17.4	15.9	5.0	10.5
Green Bay	17.7	16.2	5.0	10.8
Milwaukee	17.3	15.8	5.0	10.4
Detroit, Mich.	15.1	13.6	4.0	9.8
Grand Rapids	16.5	15.0	4.0	10.9
Saginaw	16.3	14.8	4.0	8.5
Evansville, Ind.	17.5	16.0	5.0	†10.6
Indianapolis	17.7	16.2	5.0	†9.6
South Bend	17.9	16.4	5.0	†9.6
Fargo, N. Dak.	17.4	15.9	4.0	11.5
Minot	18.6	17.1	4.0	12.7
Huron, S. Dak.	17.8	16.3	5.0	10.9
Kans. City, Mo.*	15.4	13.9	4.0	8.9
St. Louis*	15.7	14.2	4.0	9.8
St. Joseph*	15.4	11.4	4.0	6.9
Wichita, Kans.	14.9	13.4	4.0	8.9

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax.

(Exclusive of state general sales taxes, except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective Dec. 7, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.3 cents. Stanolex No. 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex furnace oil, 1-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex A, 1-399 gallons, 5.75 cents; 400 gallons and over, 4.75 cents. Stanolex B, 1-799 gallons, 5.75 cents; 800 gallons and over, 4.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank-wag.
Atl'tic City, N. J.	13.0	11.5	4.0	8.0
Newark	12.5	11.0	4.0	8.0
Annapolis, Md.	15.1	13.6	5.0	10.0
Baltimore	14.5	13.0	5.0	8.5
Cumberland	16.9	14.4	5.0	10.0
Wash'g'n, D. C.*	12.5	11.0	3.0	9.0
Danville, Va.	17.7	15.2	6.0	12.9
Norfolk	16.5	14.0	6.0	11.5
Petersburg	16.8	14.3	6.0	11.7
Richmond	16.8	14.3	6.0	11.7
Roanoke	18.0	15.5	6.0	12.9
Charles'n, W. V.	16.3	13.8	6.0	12.6
Parkersburg	15.6	13.1	6.0	11.2
Wheeling	15.5	14.0	6.0	12.2
Charlotte, N. C.	18.9	16.4	7.0	13.6
Hickory	19.4	16.9	7.0	13.0
Mt. Airy	19.2	16.7	7.0	12.8
Raleigh	18.5	16.0	7.0	12.1
Salisbury	19.0	16.5	7.0	12.7
Charleston, S. C.	17.5	15.0	7.0	11.1
Columbia	18.5	16.0	7.0	12.1
Spartanburg	19.2	16.7	7.0	12.9

*Standard of N. J. has discontinued posting service-station prices at all above points except at Washington where a station price of 16 cents is in effect.

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective March 22, 1937, in West Virginia, commercial consumer taking tank-wagon or barrel delivery of 100 gallons or more at one time, 2 cents per gallon over consumer tankcar price in effect at time and place of delivery; less than 100 gallons, 6 cents per gallon above consumer tankcar price.

Effective Jan. 25, 1937, in North and South Carolina and effective Feb. 27 in Virginia, except in Arlington and Fairfax counties: Deliveries of 50 gallons or more by tank-wagon billed at price 2 cents over posted consumer tankcar price in effect at time and place of delivery. Deliveries less than 50 gallons billed at price 6 cents over posted tankcar price. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank wag.	Gasoline Net dlr.	Gasoline Inc. tax	Kero. tank-wag.
Atlanta, Ga.	21.0	18.0	7.0	*13.0
Augusta	18.5	15.5	7.0	*14.0
Macon	21.5	18.5	7.0	*14.5
Savannah	20.0	17.0	7.0	*13.0
Birm'ham, Ala.	21.0	18.0	8.0	12.0
Mobile	22.0	19.0	9.0	11.0
Montgomery	22.0	19.0	9.0	12.5
Jackson, Miss.	21.0	18.0	7.0	*13.0
Vicksburg	20.5	17.5	7.0	*13.0
Jacksonville, Fla.	20.5	17.5	8.0	11.0
Miami	20.5	17.5	8.0	†10.5
Pensacola	22.0	19.0	9.0	12.0
Tampa	21.5	18.5	8.0	11.0
Lexington, Ky.	19.5	16.5	6.0	11.0
Covington	19.0	16.0	6.0	11.0
Louisville	19.5	16.5	6.0	10.5
Paducah	19.5	16.5	6.0	10.0

Price basis to tank-wagon consumers: Effective January 4, 1937, 3 cents per gallon below tank-wagon price. Kerosene prices in all states subject to 2 cents discount except in Kentucky where prices are net.

*Includes 1-cent state tax. †Subject to 2-cent discount.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, and Tampa, Fla., have a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Dealer tax	Gasoline Inc. tax	Kero. tank-wag.
Denver, Colo.	17.5	5.0	11.5
Grand Junction	20.0	5.0	15.0
Pueblo	15.0	5.0	10.5
Casper, Wyo.	18.0	5.0	11.5
Cheyenne	18.0	5.0	13.0
Butte, Mont.	19.5	6.0	15.5
Billings	21.5	6.0	15.5
Helena	21.5	6.0	15.5
Great Falls	21.5	6.0	15.5
Salt Lake, Utah	19.5	5.0	16.0
Twin Falls, Ida.	21.5	6.0	18.0
Boise	21.0	6.0	18.0
Albuquerque, N. M.	17.5	6.5	12.0

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank wag. con'r.	Gasoline Di-vided dlr.	Gasoline Inc. tax	Kero. tank-wag.
Ohio points	17.0	16.0	5.0	*13.5

*Includes state tax of 1 cent.

Divided dealer price is also price to authorized agents, exclusive of .5 cent rental. Tank-wagon price is price to commercial consumers in deliveries of 25 gallons or more; less than 25 gallons get service-station price.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	9.0
Fresno, Calif.	18.5	19.5	4.0	12.0
Phoenix, Ariz.	21.0	22.0	6.0	‡16.0
Reno, Nev.	20.0	21.0	5.0	13.0
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	13.5
Spokane	23.0	24.0	6.0	16.5
Tacoma	20.0	21.0	6.0	13.5

‡Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank-wag.
Albany, N. Y.	14.0	12.5	4.0	7.75
*Met. N. Y.:				
Manh't'n, Br'nx	13.5	12.0	4.0	7.25
Staten Island	13.75	12.0	4.0	7.25
Q'ns & Brklyn	13.5	12.0	4.0	7.25
Buffalo	14.3	12.67	4.0	8.25
Rochester	14.3	12.74	4.0	8.25
Syracuse	14.3	12.7	4.0	8.75
Boston, Mass.	14.0	12.5	4.0	7.50
Portland, Me.	15.8	13.5	5.0	7.75
Manch'ter, N. H.	16.3	14.0	5.0	8.00
Burlington, Vt.	15.9	13.9	5.0	8.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point: Monthly purchases under 5,000 gallons, pay divided dealer tank-wagon price at delivery point.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank-wag.
Philadelphia, Pa.	14.0	12.5	5.0	10.5
Pittsburgh	15.5	13.5	5.0	11.0
Allentown	14.5	13.25	5.0	11.0
Erie	14.5	13.0	5.0	10.0
Scranton	14.5	13.25	5.0	11.0
Altoona	15.5	13.5	5.0	11.0
Dover, Del.	14.5	....	5.0	11.0
Wilmington	13.5	....	5.0	11.0
Springf'd, Mass.	14.8	....	4.0	7.75
Worcester	14.8	....	4.0	8.0
Hartford, Conn.	14.6	....	4.0	7.0
New Haven	14.0	....	4.0	7.0
Providence, R. I.	13.0	....	3.0	7.75

Atlantic has transferred all stations to dealers except in Philadelphia and Pittsburgh where prices are 17.5 and 20.0 cents per gallon respectively.

Price basis to undivided dealers—Dealer tank-wagon less .5 cent per gallon.

Consuming accounts not under contract—when made by tank-wagon in quantities of 50 gallons or over, dealer price.

Commercial accounts under contract—annual consumption 2,500 to 100,000 gallons per year, 1 cent above posted tankcar price; over 100,000 gallons per year, .5 cent above posted tankcar price.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank-wag.
N. Orleans, La.	20.0	17.5	*10.0	†14.0
Baton Rouge	18.0	15.5	8.0	12.0
Alexandria	18.5	16.0	8.0	12.0
Lafayette	19.0	16.5	8.0	12.5
Lake Charles	19.0	16.5	8.0	12.5
Shreveport	17.5	15.0	8.0	9.5
Knoxville, Tenn.	21.0	18.5	8.0	14.0
Memphis	19.0	16.5	8.0	12.0
Chattanooga	20.5	18.0	8.0	13.5
Nashville	20.0	17.5	8.0	11.0
Bristol	19.75	18.5	8.0	14.5

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax.

Standard of La. has transferred all stations to dealers except in New Orleans and Baton Rouge where station prices are 23.5 and 21.5 cents per gallon, respectively.

Price basis to commercial consumers: Effective Dec. 21, 1936, deliveries of 50 gallons or more in one delivery, posted consumer tankcar price plus 2 cents per gallon; consumers taking deliveries of less than 50 gallons at one time pay posted consumer tankcar price plus 6 cents per gallon.

Louisiana kerosene prices include 1-cent state tax.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank-wag.
Omaha	18.4	16.9	6.0	10.4
McCook	18.0	17.0	6.0	10.0
Norfolk	18.8	17.3	6.0	10.8
North Platte	19.2	17.7	6.0	11.2
Scotts Bluff	19.9	18.4	6.0	10.9

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b Chicago. Each price subject to discount of 1 cent per gallon for 150 gallon lots if covered by contract.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Dealer tax	Gasoline Inc. tax	Kero. tank-wag.
Muskogee, Ok.	15.5	5.0	7.0
Oklahoma City	13.0	5.0	8.0
Tulsa	14.0	5.0	6.0
Ft. Smith, Ark.	15.0	5.0	10.0
Little Rock	17.5	7.5	9.5
Texarkana	15.0	5.0	9.0

Texas

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
Dallas, Tex.	14.0	18.0	5.0	8.0
Fort Worth	14.0	18.0	5.0	8.0
Houston	14.5	18.5	5.0	8.0
San Antonio	14.5	18.5	5.0	8.0

Canada*

3 Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
Hamilton, Ont.	22.0	....	6.0	17.0
Toronto, Ont.	22.0	24.5	6.0	17.0
Brandon, Man.	29.8	32.8	7.0	22.8
Winnipeg, Man.	28.2	31.2	7.0	20.7
Regina, Sask.	29.5	....	7.0	22.0
Saskatoon, Sask.	32.3	....	7.0	24.8
Edmonton, Alta.	30.5	33.5	7.0	24.2
Calgary, Alta.	28.0	31.0	7.0	21.5
Vancouver, B. C.	22.0	26.0	7.0	23.0
Montreal, Que.	19.0	....	6.0	17.5
St. John, N. B.	24.0	28.0	8.0	18.5
Halifax, N. S.	24.0	28.0	8.0	18.5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal when discounts below station prices are one-half cent per gallon less and in Vancouver where discounts are 1 cent per gallon more.

Retail Price Changes

Standard Oil Co. (Indiana) April 19 reduced dealer gasoline .5 cent in St. Joseph.

Standard Oil Co. of Kentucky April 5 advanced tank-wagon and dealer gasoline .5 cent in Paducah; March 27 reduced tank-wagon and dealer gasoline 1 cent in Montgomery and Atlanta; March 25 reduced tank-wagon kerosene 2 cents in Miami.

Standard Oil Co. of Nebraska April 16 advanced dealer gasoline 3 cents in McCook.

Fuel Oils Advanced

NEW YORK.—All grades of light fuel oils, excepting No. 1, all light industrial fuel oils and diesel oil were advanced three-eighths of a cent per gallon April 27 by Standard Oil Co. of New Jersey, along the Atlantic Seaboard. Diesel fuel oil in New York harbor is now quoted at $2.10 per barrel. The tankcar price for No. 2 fuel oil is raised to 5.375 cents per gallon; No. 4 fuel to 5.125 cents per gallon and industrial fuel to 4.875 cents per gallon.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of April 27, 1937

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 oct. and below (3d gr.)	.05⅛	.05⅜
63-67 octane	.05½	.05⅝
68-70 octane (regular)	.06⅛	.06¼
60-62 400 grades:		
62 oct. and below (3d gr.)	.05⅛	.05⅜
63-67 octane	.05½	.05⅝
68-70 octane (regular)	.06⅛	.06¼
64-66 375		.05¼
68-70 360	.05⅜	.05½

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.05⅛	.05¼
63-67 octane	.05½	.05⅝
68-70 octane (regular)	.06⅛	.06¼
60-62 400	.05⅛	.05¼
64-66 375	.05⅛	.05¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:		
62 octane and below		.05½
63-67 octane		.05¾
68-70 octane (regular)		.06¼

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
62 octane and below	.05¼	.05⅜
63-67 octane		.06
68-70 octane (regular)		.06¼

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.05⅛	.05¼
63-67 octane	.05½	.05⅝
68-70 octane (regular)	.06⅛	.06¼
60-62 400 grades:		
62 octane and below	.05⅛	.05¼
63-67 octane	.05½	.05⅝
68-70 octane (regular)	.06⅛	.06¼
64-66 375	.05⅛	.05¼
68-70 360	.05⅛	.05⅜

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.05½
60-64.9 octane	.06¾	.07
65-70 octane	.07	.07¼
64-66 375		.05⅝
68-70 350		.05⅞

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07½	.08½
58-60 400, 65 oct. and higher	.08¼	.09¼

EAST COAST (domestic)—

U. S. Motor below 60 octane:		
*New York (Bayonne)		.06¾
Baltimore		.06¾
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)		.07
Philadelphia	.07	.07¼
Boston		.07¼
Baltimore	.07	.07¼
Charleston, S. C.		.07¼
U. S. Motor, 65 and above:		
*New York (Bayonne)		.07¼
Philadelphia	.07¼	.07½
Boston		.07½
Baltimore	.07¼	.07½
Charleston, S. C.		.07½

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05¾	.05⅞
60-64.9		.06
65 octane and higher	.06¼	.06¼

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05⅝
52-54 450 (blending)	.05¾
54-56 450 (blending)	.05⅞

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.03¼	.03¼
Grade 18-55		.03¾

NORTH TEXAS—

Grade 26-70		.03¼
Grade 18-55	.03⅞	.04

CALIFORNIA—

75-85 375-390	.06¾	.07½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.03⅜	.03½

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110 flash, 540-550 e.p.	.04¼	.04⅜
41-43 gr., 300-350 i.b.p., 110-125 flash, 500-520 e.p.	.04⅜	.04½
46-48 gr., 210-230 i.b.p., 480 max. e.p.	.04⅞	.05

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04¼	.04⅜
42-44	.04⅜	.04½

NORTH TEXAS—

41-43		.04⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.04⅜	.04½

ARKANSAS (Ark., N. La., Miss. del.)—

41-43		.04¾

PENNSYLVANIA (inland refineries)—

45		.04¾
46		.04⅞
47		.05

CHICAGO (Based on Group 3)—

41-43	.04⅛	.04¼
42-44	.04⅜	.04½

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04	.05

NEW YORK (Bayonne, N. J.)—

41-43		.05½

***GULF COAST (domestic)—**

41-43		.05¼

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅞	.04
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03⅜	.03½
No. 2 dark, 32-36	.03¼	.03½
No. 3, zero to 15, 28-32	.03¼	.03⅜
No. 3, 15 and above, 28-32	.02½	.02⅝

NORTH TEXAS—

No. 1 prime white, 38-42		.04
No. 1 straw, 38-40	.03⅝	.03⅞

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03⅜	.03½

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36	.03⅝	.03¾

CHICAGO (based on Group 3)—

No. 1 prime white, 38-40	.03⅞	.04⅛
No. 1 straw, 38-40	.03⅝	.03¾
No. 2 straw, 32-36	.03½	.03⅝
No. 2 dark, 32-36	.03⅜	.03½
No. 3, zero to 15, 28-32	.03⅜	.03½
No. 3, 15 and above, 28-32	.02⅝	.02¾

NEW YORK (Bayonne, N. J.)—

*No. 1		.05¾
*No. 2		.05⅜
*No. 4		.05⅛

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02¾	.02⅞
No. 4, low cold test, 24-28	1.10	1.15
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.87½	.92½
Below 18 fuel oil, industrial	.80	.87½

NORTH TEXAS—

U.G.I. gas oil	.02¾	.02⅞
No. 4, low cold test, 24-28	1.10	1.15
No. 5, low cold test, 18-22	.87½	.92½
Below 18 fuel oil, industrial	.80	.85

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

10-14 fuel oil, industrial	.75	.80

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial		.70

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02¾	.02⅞
No. 4, low cold test, 24-28	1.10	1.15
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.87½	.92½
No. 6, low cold test, 10-16	.80	.85

PENNSYLVANIA (inland refineries)—

36-40	.04⅜	.04½

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	1.10	1.25
24 plus diesel, per bbl.	1.10	1.25
24 plus diesel (bunkers)	1.15	1.35
12-16 (bunkers at tidewater)	.90	1.00
10-16 (cargo lots)	.75	.95
12-17 (tankers)	.75	.95
San Joaquin Valley:		
10-18 (tankcars)	.70	.90
24 plus diesel, per bbl.	1.00	1.35
San Francisco:		
27 plus diesel		1.40
24 plus diesel (bunkers)		1.40
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03⅞	.04⅛
28-30 diesel (bunkers)		1.65
Bunkers (bulk cargoes)		.95
Bunker C (bunkers)		1.00

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¾
28-30 diesel (lighterage 6¼c per bbl.)		2.10
28-30 diesel (tankcars)		.04¾
*Bunker C (to ocean-going ships in N. Y. harbor)		1.20
Industrial fuel (tankcars)		.04½

*Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.23
150-160 D, 0-10		.20
150-160 D, 15-25		.19½
150-160 E, 15-25		.19
100-110 D, 0-10		.18
Steam refined:		
631 green (treated)		.17½
600 dark green (untreated)		.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 145-50 at 210, 540-550 flash):		
10 pour test	.28	.28½
15 pour test	.27	.27½
20 pour test	.26	.26½
25 pour test	.25	.25½
Steam refined:		
600		.17½
650		.19
600 Pennsylvania flash		.20
630 flash		.24
600 Warren E filtered		.20

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-3½		.13
400-3½		.14
100-2½ paraffin oil		.05¾
15-20 Cold Test:		
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.11½

GULF COAST—

Pale Oils:		
200-3	.07	.07¼
300-3	.07½	.07¾
500-3½	.08⅛	.08¾
750-3½	.08⅝	.09¼
1,200-3½	.09¼	.09¾
1,500-4	.09¾	.10
Red Oils:		
200-5-6		.07
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3	.07	.08
200-2½-3	.07	.08
300-2½-3	.07	.08
400-3-4	.09	.11
540-3-4	.09	.11
550-3-4	.09	.11
600-3-4	.09	.11
Red Oils:		
200-4-5	.07	.08
300-5-6	.07	.08
350-5-6	.10½	.11½
400-5-6	.10½	.11½
450-5-6	.10½	.11½
500-5-6	.10½	.11½
600-5-6½	.10½	.11½
700-6½ plus	.10½	.11½
750-6½ plus	.10½	.11½
900-6½ plus	.10½	.11½

PENNSYLVANIA—

150 vis. at 750° F. color, 400-405 flash:		
Zero pour test	.24½	.25
10 pour test	.23½	.24
15 pour test	.23	.23½
25 pour test	.22	.22½
180 vis. at 70° F., 3 color:		
25 pour test	.25	.25½
200 vis. at 70° F., 3 color:		
Zero pour test	.29	.29½
10 pour test	.28	.28½
15 pour test	.27½	.28
25 pour test	.26½	.27

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale		.02¾

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0265	.0270
124-126 (a.m.p.) w.c. scale	.0270	.0275

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0250	.0255
124-126 (a.m.p.) y.s.	.0260	.0265
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05¾
60-62 400		.05⅝
61-63 390	.05⅞	.06
64-66 375	.06⅛	.06¼

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04¾
55-65 octane	.04¾	.05
65-67 octane		.05
67-69 octane		.05¼
Above 69 octane	.05½	.06

KEROSENE

GULF COAST—

41-43 prime white		.05⅛
41-43 water white		.05⅜
44 water white		.05⅝

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.b. in bbls.)—

Cylinder Stocks:		
600 Warren E	.26½	.27
600 S.R. unfiltered		.24
630 S.R. unfiltered		.25½
600 flash, S.R.		.26½
630 flash, S.R.	.32	.32½
Bright Stocks:		
8 color	.32	.32½
6½ plus color in dilution		.31½

NEUTRAL OIL

200-3 color	.32½	.33
150-3 color	.29	.29½

PARAFFIN WAX

NEW YORK (prices per pound)—

123-126 a.m.p.		.04125
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude scale:		
124-126 w.s.	.0260	.0270
124-126 y.s.	.0245	.0250

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 28, 1937)

East Texas*	$1.27
Van, Tex.†	1.10
Camp Hill, Tex.	1.27
Cass County, Tex.‡	1.25
Talco	.73
Altus and Tipton, Okla.§	1.20
Other fields (see gravity table).	

*All companies. †Humble Oil & Refining Co.; Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

West Texas

See gravity table.	
Pecos County*	.91
Pecos shallow†	.81

*Shell Petroleum Co., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

Gulf Coast

(January 28, 1937)

Choctaw and Darrow, La.	See note below
Clay Creek, Tex.	$1.00
Garden Island, La.	1.37
Cleveland, Tex.	1.27
Hardin, Tex.	1.15
Tomball, Tex.	1.30
Lafitte, La.	1.24
Livingston, Tex.	1.27
Satsuma	1.20
Heyser, light (Nov. 1, 1936)	1.15
Heyser, heavy (Nov. 1, 1936)	.90
Placedo (Nov. 1, 1936)	.90
Welsh, La.	.98
Tepetate (La.) (Jan. 4, 1937)	1.12

Greta, Refugio, O'Connor, McFadden, Saxet, Segno, Taft, Tomoconnor and Plymouth take same gravity prices as Gulf Coast, Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1.18
Iles, Colo., heavy*	1.12
Greybull, Wyo.*	1.30
Torchlight, Wyo.*	1.30
Grass Creek, Wyo., light.*†	1.30
Grass Creek, Wyo., heavy (Nov. 4, 1936)*†	.62
Hamilton Dome, Wyo. (Nov. 4, 1936)*	.57
Elk Basin, Wyo., light*†	1.30
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light	.82
Hogback, N. Mex.*	1.33
Pondera, Mont. (Jan. 26, 1936)*	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.23
Rock Creek, Wyo.†	1.20½
Lea County, N. M. (see West Texas gravity table).	
Artesia, N. Mex.	.90
Maljamar, N. Mex.	.90
Canon City and Florence, Colo.	1.10
Florence, Colo.	.98
Lance Creek, Wyo.	.97
Sunburst, Mont. (June 5, 1936)	1.20
Cat Creek, Mont.	1.40
Cut Bank, Mont.	1.35

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Middle Western States

OHIO OIL CO.
(Effective January 28, 1937)

Lima	1.25
Illinois	1.35
Princeton, Ind.	1.35
Midland, Mich.	1.42
West Branch, Mich.	1.26
Buckeye (March 16, 1937)	1.39½
Arenac, Mich.	1.26
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River	1.42
Kentucky River	1.50
Western Kentucky	1.40

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp., effective January 29. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Buckeye posted by Simrall Corp. and Pure Oil Co.

Southwest Texas

(January 28, 1937)

Pettus	1.37
Salt Flat, Darst Creek, Hilbig, Carroll Clark, Zoboroski	1.09
Luling	1.00
Lytton Springs	1.12

Saxet and Taft take same gravity table as Gulf Coast.

North Louisiana and Arkansas

Smackover, all grades	$ .90
Tullos and Urania	1.02
El Dorado East field	.90
Union County, Ark.	.90
Ouachita County, Ark.	.90

Eastern States

TIDE WATER PIPE LINE CO.
(Effective Feb. 24, 1937)

Bradford, Pa.	$2.67
Allegany, N. Y.	2.67

SOUTH PENN OIL CO.
(Effective Feb. 24, 1937)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.67
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.42
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.37
Pennsylvania Grade Oil in Buckeye Pipe Line lines	2.22
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Sept. 18, 1936)	1.32

PENNZOIL CO.
(Effective Feb. 24, 1937)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	2.67
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	2.66
Includes Tidioute district.	
Group C	2.65
Includes Turkey and Tidioute districts.	
Group D	2.64
Includes Bear Creek and Porkey districts.	
Group E	2.61
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	
Price depends on lengths of pipe line haul to plant at Oil City.	

PURE OIL CO.
(Effective Feb. 24, 1937)

Cabin Creek, W. Va.	2.37
Bradford Hollow, W. Va.	2.37
Kelly Creek, W. Va.	2.37

Canada

Ontario (Sept. 9, 1933)*	
Petrolia	$2.10
Oil Springs	2.17
Turner Valley, Alberta province (Dec. 16, 1936):†	
Clear naphtha	$2.60
Discolored naphtha, 65 gravity and higher	2.36
Discolored naphtha and crude oil, 40-40.9 gravity	1.55
Increasing 3 cents for each degree of gravity with top price for 64-64.9 gravity	2.27

These prices delivered field tankage.
*Imperial Oil, Ltd.
†Imperial Oil, Ltd., and Regal Oil & Refining Co. On crude oil alone British American Oil Co. posted above prices on December 9, 1936.

Mexico

Panuco*	$1.24

*In U. S. currency, f.o.b. ship, based on February spot market transactions.

Crude Price

Sinclair Prairie Oil Marketing Co. began buying crude oil in Ward and Winkler counties, West Texas, and Lea County, New Mexico, April 20, 1937. A schedule of prices was posted, ranging from 78 cents a barrel for below 26 degrees gravity, with a 2-cent differential, to $1 a barrel for 36 degrees and above. The schedule is similar to that of the Texas Co. and differs from other schedules only in crudes above 36 gravity. The Sinclair Prairie company recently bought an interest in the New Mexico-Texas Pipe Line Co., providing an outlet for the company from the two-state area.

New York Market

(Continued from Page 111)

normally obtain their supplies from Mid-Continent refiners. Several refiners within the Pennsylvania district with reforming equipment are active purchasers of the U. S. Motor grade of gasoline even at the slightly higher prices.

Demand for higher-octane gasoline continues strong in Pennsylvania with some refiners elevating quotations on 65-octane material to 6.875 cents a gallon, up an eighth from previous offerings. Several plants, however, are still in position to supply 65-octane gasoline at 6.75 cents. Open-market buyers are pressing for higher-octane gasoline and a few suppliers are offering 70-octane motor fuel, produced by addition of benzol, to this type of trade.

Although temperatures in the east requiring artificial heating for comfort are being broken by increasingly long intervals, light fuel oils are still moving in fair volume with no change reported in prices. Kerosene is not particularly active, but prices of 5¼ to 5½ cents a gallon dominate in the New York harbor territory. The early spring demand is still somewhat curtailed by occasional days of cold rain preventing full swing into the plowing and planting season.

Clyde Becker, of Chickasha, widely known Oklahoma geologist, has been looking after his mining interests in Arizona for the last two weeks.

Crude Prices by Gravities

	Oklahoma-Kansas 1	Oklahoma-Kansas 2	North and Central Texas 3	East Central Texas (Mexia district) 4	North Louisiana-Arkansas 5	Gray County, Texas 6	Hutchinson-Carson counties, Texas 7	Rodessa, Louisiana-Texas and Panola County, Texas 8	Conroe, Tomball, Raccoon Bend, Satsuma, Texas 9	Gulf Coast 10	Gulf Coast 11	West Texas except Pecos County, Lea County, N. Mex. 12	Mirando district, Texas 13	Marion County, Texas 14	Government Wells, Texas 15	Anahuac, Texas 16	White Castle, Louisiana 17	Iowa, Louisiana 18	Cayuga, Texas 19
Bel. 18	....	....	....	....	....	....	....	....	....	$.90	....	....	....	....	....	....	....	....	....
18-18.9	....	....	....	....	....	....	....	....	....	.92	....	....	....	....	....	....	....	....	....
19-19.9	....	....	....	....	....	....	....	....	....	.94	....	....	....	....	....	$.92	$.94	$.84	....
20-20.9	....	....	....	....	....	....	....	....	....	.96	$.95	....	$.90	....	$.90	.94	.96	.86	....
21-21.9	....	....	....	....	....	....	....	....	....	.98	.98	....	.93	....	.93	.96	.98	.88	....
22-22.9	....	....	....	....	....	....	....	....	....	1.01	1.01	....	.96	....	.96	.98	1.01	.91	....
23-23.9	....	....	....	....	....	....	....	....	....	1.04	1.04	....	.99	....	.99	1.00	1.04	.94	....
24-24.9	....	....	....	....	....	....	....	....	....	1.07	1.07	....	1.02	....	1.02	1.02	1.07	.97	....
Bel. 25	....	$.98	....	....	$.90	....	....	$.93	....	....	....	....	....	$.90	....	....	....	....	$.88
25-25.9	....	1.00	....	....	.92	....	....	.95	....	1.10	1.10	$.78	1.05	.92	....	1.04	1.10	.99	.90
26-26.9	....	1.02	....	....	.94	....	....	.97	....	1.13	1.13	.80	1.08	.94	....	1.06	1.13	1.03	.92
27-27.9	....	1.04	....	....	.96	....	....	.99	....	1.15	1.15	.82	1.10	.96	....	1.08	1.15	1.05	.94
28-28.9	....	1.06	....	....	.98	....	....	1.01	....	1.17	1.17	.84	1.12	.98	....	1.10	1.17	1.07	.96
Bel. 29	$1.06	....	$.96	$1.03	....	....	....	....	$1.20	....	....	....	....	....	....	....	....	....	....
29-29.9	1.08	1.08	.98	1.05	1.00	....	....	1.03	1.22	1.19	1.19	.86	1.14	1.00	....	1.12	1.19	1.09	.98
30-30.9	1.10	1.10	1.00	1.07	1.02	....	....	1.05	1.24	1.21	1.21	.88	1.16	1.02	....	1.14	1.21	1.11	1.00
31-31.9	1.12	1.12	1.02	1.09	1.04	....	....	1.07	1.26	1.23	1.23	.90	1.18	1.04	....	1.16	1.23	1.13	1.02
32-32.9	1.14	1.14	1.04	1.11	1.06	....	....	1.09	1.28	1.25	1.25	.92	1.20	1.06	....	1.18	1.25	1.15	1.04
33-33.9	1.16	1.16	1.06	1.13	1.08	....	....	1.11	1.30	1.27	1.27	.94	1.22	1.08	....	1.20	1.27	1.17	1.06
34-34.9	1.18	1.18	1.08	1.15	1.10	....	....	1.13	1.32	1.29	1.29	.96	1.24	1.10	....	1.22	1.29	1.19	1.08
Bel. 35	....	....	....	....	....	$.96	$.91	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.20	1.20	1.10	1.17	1.12	.98	.93	1.15	1.34	....	1.31	.98	1.26	1.12	....	1.24	....	1.10	....
36-36.9	1.22	1.22	1.12	1.19	1.13	1.00	.95	1.17	1.36	....	1.33	1.00	1.28	1.14	....	1.26	....	....	....
37-37.9	1.24	1.24	1.14	1.21	1.16	1.02	.97	1.19	1.38	....	1.35	1.02	1.30	1.16	....	1.28	....	....	....
38-38.9	1.26	1.26	1.16	1.23	1.18	1.04	.99	1.21	1.40	....	1.37	1.04	1.32	1.18	....	1.30	....	....	....
39-39.9	1.28	1.28	1.18	1.25	1.20	1.06	1.01	1.23	1.42	....	1.39	1.06	1.34	1.20	....	1.32	....	....	....
40,over	1.30	1.30	1.20	1.27	1.22	1.08	1.03	1.25	1.44	....	1.41	1.08	1.36	1.22	....	1.34	....	....	....

Column 1—Companies posting are Barnsdall, Bell, Champlin, Continental, Cushing, Derby, Dickey, Eason, El Dorado, Empire, Falcon, Globe, Gulf, Johnson, Kanotex, National, Phillips, White Eagle, Stanolind, Sunray, Texas, Sun, Vickers and Wilcox.
Column 2—Anderson & Prichard, Carter, Cosco, Deep Rock, Magnolia, Mid-Continent, Pure, Rock Island, Shell, Sinclair, Skelly and Tide Water.
Column 3—All purchasers.
Column 4—Humble Oil & Refining Co. and Sinclair Crude Oil Purchasing Co.
Columns, 5, 6, 7 and 8—All purchasers.
Column 9—Humble Oil & Refining Co. and Sun Oil Co. Tide Water Oil Co.'s schedule starts at 35 degrees, $1.34 with 2-cent spread up to 40 and over at $1.44. (Raccoon Bend prices are for deep sand oil.)
Column 10—The Texas Co. (Gulf Refining Co. pays same prices up to and including 34 gravity, but continues its 2-cent spread up to 40 and over at $1.41.)
Column 11—Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Sun Oil Co.
Column 12—All purchasers.
Column 13—Humble Oil & Refining Co.
Column 14—Magnolia Petroleum Co.
Column 15—Sun Oil Co.
Column 16—Gulf Refining Co.
Columns 17 and 18—Shell Petroleum Corp.
Column 19—Tide Water Oil Co.

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1937 High	1937 Low	Week ended April 24 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
114⅞	98¼	2,900	107½	99	99¾	Amerada Corp.	788,675	N.P.	50cQ	1-30-37	$2.00	125½	75	80	48½
37	30⅛	13,600	33¾	32⅛	32⅛	Atlantic Refining	2,664,904	$25	25cQ	3-15-37	1.25	35⅛	26⅝	28	20½
43⅜	35⅞	5,500	39¼	37	37¼	Barber Co.	387,149	$10	50c	12-10-36	.50	38½	21	22½	11⅜
35¼	26⅛	15,100	32⅞	30⅜	30⅜	Barnsdall Oil Co.	2,131,090	$5	25cQ	5-1-37	.80	28¼	14⅛	14⅜	5⅞
20⅞	13⅞	23,800	14⅜	13⅞	14	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-16-36	.40	23⅜	14	15⅜	3⅝
17⅞	15⅝	45,300	17¼	16⅜	16½	Consolidated Oil Corp.	13,983,287	N.P.	20cQ	5-15-37	.80	17¼	11½	12¼	6⅛
47⅜	40¼	20,900	47⅜	44⅛	44½	Continental Oil of Delaware	4,682,671	$5	25cQ	3-29-37	1.50	44⅞	28⅛	35	15⅛
17⅝	12½	27,900	15⅜	14⅛	14½	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	13⅞	6⅜	7	1½
35⅜	29¼	9,800	33½	31⅝	31¾	Mid-Continent Petroleum	1,843,872	$10	75cSA	12-1-36	1.15	30⅞	17¼	20½	9½
34	26⅞	3,800	32¾	29⅛	29⅛	Mission Corporation	1,399,345	N.P.	....	.....	.45	29⅞	16¾	17⅜	10⅝
102¾	62	6,600	102¾	92	92	National Supply of Delaware	382,591	$25	....	5-15-31	....	75½	19⅞	20⅞	9
22⅞	17⅛	37,800	22½	20¾	20⅞	Ohio Oil Co.	6,563,377	N.P.	35cSA	12-15-36	.60	18	12⅛	14¼	9¼
29¾	22¼	5,200	27¾	25¼	25¼	Pacific Western Oil	1,000,000	N.P.	65c	12-18-36	.65	23½	11¾	14	6¾
4½	2¾	8,700	3⅞	3¼	3¼	Panhandle P. & R.	198,770	N.P.	....	.....	....	4¼	1⅜	1⅞	½
59¼	49½	22,500	58¾	55½	55¾	Phillips Petroleum	4,152,836	N.P.	50cQ	3-1-37	2.50	52⅝	38⅛	40	13⅜
29⅞	24¼	20,300	29⅞	27⅝	28⅛	Plymouth Oil Co.	1,050,000	$5	35cQ†	3-31-37	.90	27¾	11⅞	13	6½
24⅜	19½	44,100	22¼	20½	21	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	24⅞	16	17	5⅞
54½	40¼	13,900	51	46⅝	47	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	6-15-37	1.00	44	30½	36⅞	20¾
24¾	26⅞	5,200	31½	30⅜	30⅜	Shell Union Oil	13,070,625	N.P.	25c	12-15-36	.25	28¼	14¾	16½	5½
105⅜	102	3,100	104¼	103½	103½	Shell Union Oil 5½% pfd.	400,000	$100	26⅛c	12-15-36	28.87½	127½	102	111	63⅛
4¼	3½	2,700	4¼	3¾	3¾	Simms Petroleum	461,698	$10	50c liq.	1-9-37	2.25 liq.	6¾	3½	18¾	4¾
60⅝	42	8,100	60⅝	56⅛	56⅛	Skelly Oil	1,008,514	$15	....	12-15-30	....	47⅜	19½	20½	6½
20¼	16¼	148,200	20¼	19⅛	19⅜	Socony-Vacuum	31,151,075	$15	25cSA	3-15-37	.70	17½	12½	15⅜	10⅝
50	43¼	17,100	47½	44½	45	Standard Oil of California	13,014,754	N.P.	30cQ†	3-15-37	1.20	47⅝	35	41⅛	27¾
50	44⅜	10,400	47¼	45⅛	45⅜	Standard Oil (Indiana)	15,215,677	$25	40cQ†	3-15-37	2.40	48½	32¾	33⅜	23
32	31	200	30¾	30¾	30¾	Standard Oil of Kansas	200,000	$10	$1	12-26-36	1.00	31	25	32	20
76	67⅛	35,300	70⅜	66⅛	66½	Standard Oil of New Jersey	25,856,081	$25	$1.25SA†	12-15-36	2.00	70⅜	51⅛	52⅜	35¾
77½	68	600	71¾	69½	69½	Sun Oil	1,733,013	N.P.	25cQ	6-15-37	$1 & 6% Sk.	91	70	77	60½
65⅛	50⅜	83,200	65⅛	60½	61⅛	Texas Corp.	9,340,069	$25	50cQ	4-1-37	1.50	55¼	28⅞	30¼	16½
9⅝	7⅞	16,100	9	8	8	Texas Gulf Producing Co.	888,116	N.P.	5c	12-15-36	.05	8⅞	4⅜	4¾	2½
16⅝	13⅛	15,300	15¾	14⅝	14⅝	Texas Pacific Coal & Oil	880,703	$10	10c	6-1-37	.25	15¼	7½	9¼	3¼
21⅝	18½	25,900	19½	18½	18⅝	Tide Water Associated	5,642,342	N.P.	20cQ	6-1-37	.70	21¾	14¾	15⅞	7⅝
28¼	24⅛	9,600	26⅝	25	25	Union Oil of California	4,666,270	$25	30cQ	5-10-37	1.00	28½	20¾	24	14¾
31½	26⅝	1,200	28	27½	27½	Union Tank Car Co.	1,200,000	N.P.	40cQ	3-1-37	1.20	31⅝	22⅝	26½	20⅞
6¼	4½	2,600	5½	5	5⅛	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¼	2¾	3⅛	1

*Ex-dividend. †Includes extras.

New York Curb Exchange

1937 High	1937 Low	Week ended April 24 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
21⅜	16	5,400	20⅞	19⅛	19½	Bridgeport Machine Co.	260,000	N.P.	$1	12-21-36	$1.00	21	13¼	14⅛	3¾
51½	46	100	50¾	50¼	50¼	Buckeye Pipe Line Co.	200,000	$50	$1Q	6-15-37	3.25	50	39¾	42½	½
2¾	1⅞	14,600	2½	2⅛	2¼	Carib Syndicate	799,020	25c	....	.....	....	4⅞	1⅞	⅝	1⅝
123	110¼	200	123	120	120	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	3-29-37	7.00	124¾	105	157	115
5⅜	3¾	30,500	4	3¾	3⅞	Cities Service	37,804,394	N.P.	....	6-1-32	....	7⅜	3	3¼	¾
4⅝	2⅛	2,200	2⅜	2⅛	2⅛	Cosden Oil	399,687	$1	....	.....	....	4½	1½	1½	¼
38	28½	16,400	34⅞	32¾	33½	Creole Petroleum	6,974,356	$5	25cSA	12-15-36	.50	39	19⅞	23¾	10
18⅝	15½	1,300	16⅜	15¼	15¼	Darby Petroleum	351,390	$5	25cSA	1-15-37	.50	18⅛	9	8⅞	4
8¼	5¼	14,300	8⅛	7¼	7½	Derby Oil & Refining	263,162	N.P.	....	.....	....	6¾	1⅞	2	¾
47½	37	No sales	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	5-1-37	4.00	47½	38½	38	33¼
63½	53¾	7,200	59⅞	56½	56½	Gulf Oil Corp.	9,076,202	$25	25cQ	4-1-37	1.50, 100% Stk.	59	36	74¾	50¼
87	77½	4,400	83¼	81½	82	Humble Oil & Refining	8,923,935	N.P.	37½cQ	4-1-37	1.50	80	57	64	44
24¼	21	7,300	22⅛	21⅜	22	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	12-1-36	1.25	24½	19¾	22½	15⅜
15	7¾	300	14	13⅛	13⅛	Indiana Pipe Line	300,000	$10	30cSA	5-15-37	.80	9¾	5½	6⅛	3⅝
39½	33¾	4,500	36¼	35½	35½	International Petroleum	14,247,088	N.P.	$1.25†‡	12-1-36	2.50	39⅝	32⅝	39¾	28
15¼	11¾	6,900	12⅞	12⅜	12⅜	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	3-15-37	.50	15⅜	9⅞	11⅜	4⅜
26¾	16⅛	10,100	24⅜	22⅞	22⅞	Lion Oil Refining	270,000	N.P.	25cQ	12-26-36	.75	17¾	7⅜	8⅛	3½
14¼	10⅜	4,400	11⅜	10¾	11⅜	Lone Star Gas	5,382,723	N.P.	20c	4-20-37	.60	14¼	9⅞	10⅞	4½
14⅝	11⅜	900	11⅞	11⅜	11⅜	Midwest Oil Co.	998,444	$10	57c	12-15-36	....	..	..	..	..
7⅞	6	3,200	6⅞	6½	6½	Mountain Producers	1,682,182	$10	30cSA	12-21-36	.60	8⅝	5	5¾	4⅛
19½	15⅝	16,500	17¼	16⅝	16⅝	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-37	1.00	23	17⅜	20	11¾
11⅞	10	1,100	10¾	10¼	10½	National Transit	509,000	$12.50	35cSA	12-15-36	.75	15¾	9¼	10⅝	6¾
6⅛	4¾	100	5⅜	5⅜	5⅜	New Bradford Oil	1,445,202	$5	15cSA	4-15-37	.10	4⅝	2⅞	3¼	2
5	3	1,000	3⅜	3	3⅛	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	.01	6⅝	1⅝	2½	1
5⅜	4½	No sales	..	..	..	New York Transit	100,000	$5	15cSA	10-15-36	.35	6¼	4¼	4⅞	3
11½	7½	1,900	11½	11	11¼	Northern Pipe Line	120,000	$10	40c	6-1-37	.40	9¾	4⅞	8	5¼
9⅝	5½	10,800	6⅞	6¼	6⅝	Pantepec Oil	1,608,700	N.P.	....	.....	....	10⅛	3¼	4⅜	1¼
13¾	7⅝	3,300	8⅜	7¾	7¾	Root Petroleum Co.	336,045	$1	25c	11-2-36	.50	19¼	4½	5	1½
6½	4	12,200	6¼	4⅝	5⅞	Ryan Consolidated	296,931	N.P.	....	.....	....	4¾	1⅞	2½	⅝
48	42	1,400	43½	42¾	43	South Penn Oil	1,200,000	$25	60cQ†	3-29-37	2.60	44	32½	34½	21⅝
7¼	5	100	6	6	6	Southern Pipe Line	100,000	$10	20cSA	3-1-37	.25	7⅞	3¼	5	3⅞
42	31	100	31	31	31	South West Penna. Pipe Lines	35,000	$50	50cQ	4-1-37	13.00	60	44	56	44¼
20¾	19⅛	2,700	19⅞	19½	19⅝	Standard Oil of Kentucky	2,604,790	$10	25cQ	3-15-37	1.35	23⅜	17⅛	24	18
13¾	11½	300	13⅛	13	13	Standard Oil of Nebraska	188,403	$25	25c	3-29-37	.25	14⅝	11	12	7¾
45	33¼	1,400	41½	39⅞	39⅞	Standard Oil of Ohio	753,740	$25	25cQ	3-15-37	2.00	40	21¾	23⅝	11½
4⅞	4	7,300	4¾	4⅜	4½	Sunray Oil	1,910,119	$1	5c	4-26-37	.10	5	2⅝	2⅞	⅞
7⅝	6⅛	500	6⅜	6¼	6⅜	Texon Oil & Land	336,028	$2	15cQ	3-31-37	.60	9¾	5⅜	6⅞	5

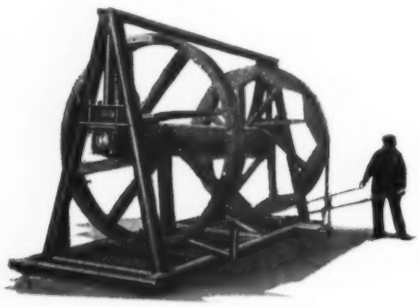
*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Bridgeport Machine Introduces Portable Bullwheel Frame

The Bridgeport Machine Co., Wichita, Kans., has announced a new time- and labor-saving device in the development of a frame which completely unitizes the bullwheels used with cable-tool rigs. The unit consists of a strong, rigid, electric-welded structural-steel frame on a substantial H-beam skid



base, in which the bullwheels are mounted in bronze bushed self-aligning bearings. The frame is furnished either with or without the bullwheels.

Features include maximum portability, simplified loading and hauling, assurance of true alignment of bullwheel shaft, uniform spooling of wire line, longer life for bullwheels and wire lines, lower installation cost and increased safety for the drilling crew.

Here and There With Men Who Manufacture Equipment

Maloney Tank Manufacturing Co. has opened sales offices at 1603 Sterling Building, Houston, Tex., with C. W. Stevens in charge.

Hope Engineering Co. has moved its New York office to Pershing Square Building, 100 East Forty-second Street.

American Sand-Banum Co., Inc., specialist in boiler- and engine-water treatment, has moved into new and larger offices at 9 Rockefeller Plaza, New York.

Foxboro Co., Foxboro, Mass., maker of industrial precision instruments, has announced appointment to vice presidency of C. E. Sullivan, sales manager since 1920.

The New York office of Great Lakes Coal & Coke Co. has been moved from 500 Fifth Avenue to 30 Rockefeller Plaza.

W. H. Borst and E. A. Weber are new additions to the sales staff of Lincoln Electric Co., Cleveland, Ohio, in its New York office, 330 West Forty-second Street. They will help in providing welding consultation service.

J. B. Trotman, for many years associated with Goulds Pumps, Inc., and widely known in the pump field, is now located at Connersville, Ind., as manager of the "T" pump division of Roots-Connersville Blower Corp.

Wilson Supply Co., 1412 Maury Street, Houston, Tex., is erecting a two-story office building on the property adjoining its present quarters. The building, to be completed in about 30 days, will cost $10,000.

F. M. Black, for seven years in the engineering department of Humble Oil & Refining Co., has joined W-K-M Co. of Houston, Tex., as field engineer.

Vernon Tool Co., Ltd., Los Angeles, Calif., has appointed McNeely Materials Co., 2935 Jensen Drive, Houston, Tex., its Gulf Coast and Mid-Continent representative for the Vernon-McNeely vibrating rotary mud-screen.

Newark Wire Cloth Co., Newark, N. J., manufacturer of woven-wire screens, and wire-cloth products, has appointed J. K. Porter Co., Union Trust Building, Pittsburgh, Pa., as its agent in western Pennsylvania territory.

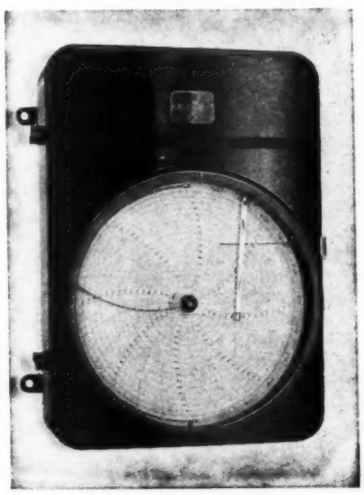
Wickwire Spencer's Wire Rope Sales Directed by Henecker

D. J. Henecker has been appointed manager of the wire rope sales department of the Wickwire Spencer Steel Co., succeeding the late R. H. Cherry. Mr. Henecker, who is 39, served in a field hospital unit in France during the war. In 1921 he joined the electrical and wire rope sales department of American Steel & Wire Co., operating in New York for four years and then in the South for two and one-half years. After returning to New York for a year in the wire rope sales promotion division, Mr. Henecker was transferred to Buffalo in charge of wire rope sales and then back to New York as assistant department manager of electrical and wire rope sales. In 1932 Mr. Henecker joined the sales staff of Wickwire Spencer Steel Co. as assistant district sales manager in Buffalo, assuming management of that district in 1934 and remaining there until his recent promotion.

D. J. HENECKER

Potentiometers of Round-Chart Type Announced by Bristol

A new recording potentiometer of the round-chart type, the Pyromaster, has been developed by



the Bristol Co. It is available as a pyrometer, tachometer, resistance thermometer, millivoltmeter and milliammeter and it operates on a principle which makes important features possible.

The Pyromaster requires no lubrication. It is not affected by normal plant vibration. There is no mechanical motion of any kind except when a change in the measured quantity takes place. It can be used under rough plant conditions where the air is laden with dust, moisture, and corrosive fumes. The operating mechanism is made up of five small, compact units which are replaceable. There are no mechanical connections between the galvanometer unit and the other units. The pen is actuated in such a way as to follow changes in the measured quantity as they occur and at a rate dependent upon the rate of change.

Butler Announces Promotions

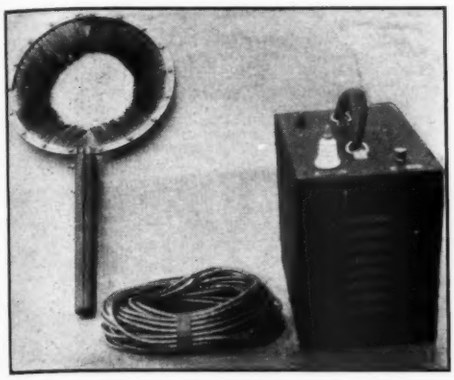
Increased oil equipment and steel building sales of the Butler Manufacturing Co. in Kansas City, Mo., and Minneapolis, Minn., have necessitated additional sales executive man power. G. A. Burns has moved his headquarters from Minneapolis to Kansas City to serve as manager of the oil equipment and steel building departments for both the Kansas City and Minneapolis divisions. Carl W. Jackson will succeed Mr. Burns as sales manager of the northern division in oil equipment.

Funds for New Equipment

Purchase of $100,000 worth of new production equipment has been decided upon by Four Wheel Drive Auto Co., Clintonville, Wis., and Kitchener, Ontario, Canada. Issuance of $100,000 in rights to stockholders to purchase a new issue of common stock has provided new working capital. Additional working funds will be obtained after the close of the fiscal year, June 30, through the issuance of more rights, Walter A. Olen, president, said. The $100,000 will be used for a new heat-treating department now being installed, new lathes, gear-cutting machinery, other equipment.

Pipe-Coating Holiday Detector of Improved Design Offered

Crutcher-Rolfs-Cummings, Esperson Building, Houston, Tex., is marketing a pipe-coating holiday detector of improved efficiency, following study of



Pipe electrode, 100 feet of high-tension cable and box of six dry cells. Weighs 15 pounds

the various conditions under which a holiday detector must operate.

The device is portable, weighing only 15 pounds with batteries enclosed in cabinet. The old weight was 70 pounds. It is operated from dry cells, six dry cells in all. The high-tension voltage output

In operation

is 50 per cent higher than the old type of holiday detector, giving a longer spark and indicating coating holidays more readily. The high-tension circuit in the coil-box is highly insulated and high-tension insulators are used throughout, thus eliminating considerable current leakage and thereby increasing the efficiency. The pipe electrode is lighter and stronger.

Bulletins, Booklets and Other Literature for the Trade

The Red Devil piston-knocker is described and pictured in a bulletin obtainable from Oil Well Manufacturing Corp., 6000 South Alameda Street, Los Angeles, Calif.

"Building a Career in Arc-Welding" is the title of a 10-page booklet issued by Lincoln Electric Co., Cleveland, Ohio, explaining the company's course of instruction in what it designates as "an industry that's going places fast."

Technical bulletin No. 10, issued by the Steel and Tube Division of Timken Roller Bearing Co., Canton, Ohio, presents a series of data on oxidation at 1,000° F., 1,250° F., and 1,500° F. on 13 different steels. It is of particular interest in oxidation problems connected with cracking coils, polymerization plants, superheaters, high-pressure steam plants, air-heating equipment and recuperators.

National Supply Co., Toledo, Ohio, announces a bulletin covering two additions to its line of beam and post assemblies, along with complete description of other models in the line.

A Fairbanks-Morse bulletin describes that company's line of polyphase wound-rotor or slip-ring, ball-bearing, induction motors.

International power units used in oil fields of southern California are pictured in the current issue of Harvester World, published by International Harvester Organization, Chicago.

"Pertinent Facts Relative to Reflection Seismic Surveys" is the subject of a 16-page illustrated booklet prepared for distribution by Seismograph Service Corp. and Engineering Laboratories, Inc., Kennedy Building, Tulsa.

American locomotive cranes are described and illustrated in a 16-page booklet obtainable from American Hoist and Derrick Co., St. Paul, Minn.

How Moly steels help tongs to meet hard life on oil-field drilling rigs is told in the current number of Moly Matrix, published by Climax Molybdenum Co., 500 Fifth Avenue, New York.

"Don't coddle rust; kill it," is the advice of Truscon Laboratories, Detroit, Mich., in a bulletin telling about Bar-ox Formula 97, offered as a penetrating rust-inhibitor.

Automotive Maintenance Machinery Co., 2100 Commonwealth Avenue, North Chicago, Ill., is sending on request graphs and other information concerning its tension-indicating wrench, designed to pull down headbolts so that they have uniform tension.

A bulletin describing the new Campbell-Cantilever boiler feed-water level controller may be obtained from the manufacturer, J. A. Campbell Co., box 851, Long Beach, Calif.

Esterline-Angus Co., Indianapolis, Ind., has issued an 88-page catalog describing its complete line of graphic instruments. The book illustrates 7 types of instrument cases, 21 chart drives and 24 kinds of meter elements.

Dan O'Shea, Advertising Head for Wheatley, Is Advanced

Dan O'Shea, advertising and office manager of Wheatley Bros., Pump and Valve Manufacturers, Tulsa, has been elected vice president of the company. Going to Tulsa a year and a half ago, after

DAN O'SHEA

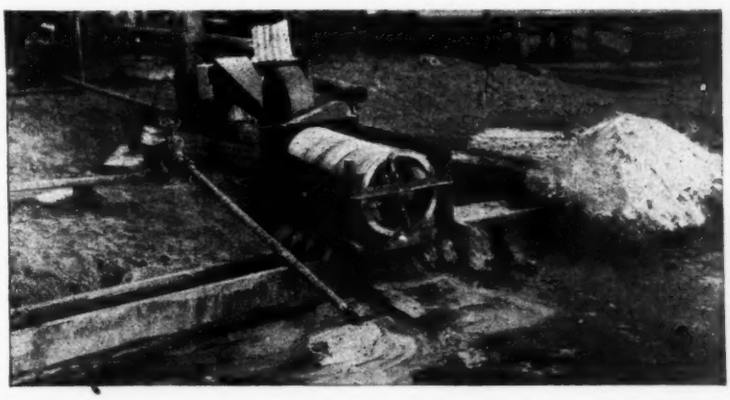
shop training in the Wheatley plant in Kansas City, Mo., Mr. O'Shea developed an aggressive advertising campaign for Wheatley pumps and valves, which contributed to the 35 per cent increase in sales. He remains a director of the company.

Powers Is Assistant Secretary

The James F. Lincoln Arc Welding Foundation, sponsor of the $200,000 arc-welding prize contest, has appointed as assistant secretary Edmond C. Powers, who has been engaged for three years in technical writing for Lincoln Electric Co., Cleveland, Ohio. Before starting work with Lincoln, Mr. Powers served the Penton Publishing Co. as associate editor of two technical publications in the marine field.

MUD-SCREEN OF NEW DESIGN ANNOUNCED BY W-K-M

W-K-M Co., Houston, Texas, has placed on the market a new method of screening drilling fluid. The unit is pictured here, in operation on a West Texas drilling well. Mud returns from the well furnish the power to operate the screen, which is built on a rotary principle. Circulation from the well enters a mud inlet set at an angle which provides ample velocity to drive a pelton wheel. A simple gear arrangement at the pelton wheel rotates the mud-cylinder, which embodies a series of spiral vanes for equal distribution of circulation over the screening area of the cylinder. The combination vibrating and rotating motion of the cylindrical screen separates the shale and cuttings from the finer mud fluid. The manufacturers explain that the absence of excessive vibration eliminates undue injury of screen or other working parts and prolongs the lift of the unit.



Oil Man's Calendar

May

4-9—White Sulphur Springs, W. Va., Society of Automotive Engineers, summer meeting, Greenbrier Hotel.

6-7—Columbus, Ohio, American Petroleum Institute, Division of Production, Eastern district, Deshler-Wallick Hotel.

10—Kansas City, Mo., Spring meeting Natural Gas Department, American Gas Association.

19-21—Tulsa, Natural Gasoline Association of America, annual meeting, Hotel Tulsa.

20-26—Findlay, Ohio, Findlay's Golden Celebration of Oil and Gas.

23-27—Pittsburgh, Pa., National Association of Purchasing Agents (Oil Company Buyers' Group) annual convention, William Penn Hotel.

26-28—Fort Worth, Tex., National Oil Well Superintendents Association.

29—Robinson, Ill., fifth annual conference of the Illinois-Indiana Petroleum Association.

June

1-3—Colorado Springs, Colo., American Petroleum Institute, mid-year meeting, Broadmoor Hotel.

7—Kansas City, Mo., Oil Field, Gas Well-Refinery Workers of America.

10-12—Pennsylvania Grade Crude Oil Association, annual meeting, on Great Lakes S.S. "Seeandbee," sailing from Buffalo, N. Y.

11—Santa Fe, N. M., Interstate Oil Compact Commission meeting.

14-19—Paris, France, Second World Petroleum Congress, during International Exposition.

25-26—Dallas, Tex., National Oil Scouts Association, annual meeting, Baker Hotel.

June—July

28-July 2—New York, American Society for Testing Materials, fortieth annual meeting, Waldorf-Astoria Hotel, together with fourth A.S.T.M. exhibit of testing apparatus and related equipment.

September

(?)—San Francisco, Calif., North American Gasoline Tax Conference.

15-17—Atlantic City, National Petroleum Association, annual meeting, Hotel Traymore.

27—Cleveland, Ohio, American Gas Association, nineteenth annual convention.

September—October

27-Oct. 1—Rochester, National Association of Petroleum Retailers, fifth national convention.

October

11-15—Kansas City, Mo.—Twenty-sixth National Safety Congress and Exposition.

11-16—Houston, Tex., Oil-World Exposition.

14-16—Houston, Tex., Independent Petroleum Association of America, annual meeting.

26—New York, Oil Trades Association of New York.

29-30—Dallas, Tex., Mid-Continent Oil and Gas Association of Texas, annual meeting.

November

9-12—Chicago, American Petroleum Institute, eighteenth annual meeting, Stevens Hotel.

CLASSIFIED ADVERTISING

Patent Attorneys

JACK A. SCHLEY
PATENT LAWYER

Patents Obtained—Infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas. 3014 Second Nat'l. Bank Bldg., Houston. 707 Insurance Building, San Antonio. 433 Munsey Building, Washington, D. C. Address any of these offices.

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to any one, send for blank form:
"Evidence of Conception."
Instructions "How to Establish Your Rights" and complete information FREE!
LANCASTER, ALLWINE & ROMMEL
418 Bowen Building,
Washington, D. C.

Business Opportunities

GEOLOGIST desires connection on percentage basis plus expenses. Highest credentials. Address Box G-823, The Oil and Gas Journal, 415 Lexington Avenue, New York City.

INVESTIGATE BANKINK OPPORTUNITIES, PAMPA, TEXAS. PAMPA LEGAL NEWS.

Help Wanted

CHEMIST—Petroleum Refinery has position open for college graduate having degree in Chemistry or Chemical Engineering. Give full details as to age, past experience, school attended, degree received and year graduated in your answer. Also enclose small photograph if available. Address Box H-763, The Oil and Gas Journal, Tulsa, Oklahoma.

POSITIONS OPEN

Experienced petroleum chemists with college education familiar with oil producing problems. Apply by letter stating education, experience and personal data and attach recent photograph.

DOWELL INCORPORATED
529 Kennedy Bldg.
TULSA - - - - OKLAHOMA

Situations Wanted

PETROLEUM Engineer, University graduate, twelve years' experience in land, geological and engineering departments, desires connection with a reliable company. Can furnish best of references. Address Box H-730 The Oil and Gas Journal, Tulsa, Okla.

MECHANIC and engine setter of all types of machines. Fully experienced, best of references, sober. Address Box H-761, The Oil and Gas Journal, Tulsa, Okla.

Situations Wanted

YOUNG man with legal education and land dept. experience desires position with small company or independent oil operator. Address Box H-760, The Oil and Gas Journal, Tulsa, Oklahoma.

TAX executive experience in 25 different states, legal research experience, clerically efficient, expert typist, steno, well educated. Young woman desires to make connection with reliable oil company. Address Box H-743, The Oil and Gas Journal, Tulsa, Oklahoma.

EXPERIENCED GEOLOGIST desires job as geological scout preferably South Texas. Available about July first. Address Box H-764, The Oil and Gas Journal, Tulsa, Oklahoma.

PETROLEUM ENGINEER AND GEOLOGIST: With 17 years' experience Mid-Continent, Texas and South American fields. Expert appraisal and proration experience. Last six years production superintendent Oklahoma. Desires major company connection or salary and interest with independent operator. Address Box H-765, The Oil and Gas Journal, Tulsa, Oklahoma.

THOROUGHLY experienced cracking plant, light and heavy oil operator, also, light and heavy oil treater, desires new situation. Address Box H-751, The Oil and Gas Journal, Tulsa, Oklahoma.

Royalties—Production

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

F. A. SANSOME
Maintains a Complete Trading Organization for Brokers, Banks and Dealers
In
Oil Royalties
522 Fifth Avenue, New York, N. Y.

ROYALTY, Oil Property and Land Investors. If you have money that is not working, write me for my 1937 plans, you are part of them.
E. B. REEVES
Box 13, Alanreed, Gray Co., Texas.

PRODUCING OIL ROYALTIES
for dealers
H. P. BOWEN
842 Kennedy Bldg., Tulsa, Okla.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood, P. O. Box 2261, Tulsa, Oklahoma.

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

Royalties—Production

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Securities and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

PRODUCING OIL ROYALTIES
15 years of experience
L. H. WITWER
214 Kennedy Bldg., Tulsa, Okla.

Oil Royalties and Oil and Gas Leases
Bought and Sold
E. T. Marion
1109 Petroleum Building
Midland, Texas

ROYALTIES PURCHASING TRUST, LTD., Moorgate Hall, Moorgate London, E. C. 2., England, are buyers of producing oil royalties.

VIRGIL O. KING, INC.
WHOLESALERS OF HIGH CLASS PRODUCING ROYALTIES
Complete Information Upon Request.
First Natl. Bldg., Oklahoma City, Okla.

ROYALTY FOR SALE—½ of ⅛ on 240 acres, hot area near well, 460 acres, to lease surrounded by major company leases. John Z. Gill, Box 181, Clay City, Illinois.

Financing

CAPITAL secured for new and going companies. Moderate charges. Delaware charters. J. Murrow 299 Broadway, New York.

CAPITAL SEEKERS—Put your project before 260 Key-Men. Cost trifling. Details free. Amster Leonard, Fox Theater Building, Detroit, Michigan.

CORPORATION FINANCING
INDIVIDUAL OR CORPORATION seeking additional capital for equipment or development purposes and interested in Eastern connection can contact Broker with facilities and organization open to assist in financing developed or semi-developed oil property through sale stock issue. Address Box H-762, The Oil and Gas Journal, Tulsa, Oklahoma.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*	
1 Inch	*13 times*	*4.50*	*per inch*
1 Inch	*26 times*	*4.00*	*per inch*
1 Inch	*52 times*	*3.50*	*per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

CLASSIFIED

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*

	1 time	2 times	3 times	4 times
7 Lines	*$2.45*	*$4.20*	*$5.95*	*$7.70*
8 Lines	*2.80*	*4.80*	*6.80*	*8.80*
9 Lines	*3.15*	*5.40*	*7.65*	*9.90*
10 Lines	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

CLASSIFIED ADVERTISING

For Sale—Equipment

WELDERS A.C. and D.C. electric motor and engine driven. Reconditioned. Service Co., 3732 Cedar Ave., Cleveland, Ohio.

FOR SALE—1 used reconditioned No. 27 S&B chain driven sand reel mounted on steel skid complete less chain and band-wheel-sprocket. $350.00 f.o.b. Oklahoma City. I. T. I. O., Bartlesville, Oklahoma.

FOR SALE: 75—10" Standard cast iron gasket type flange unions, new and reconditioned—cheap. I. T. I. O., Bartlesville, Oklahoma.

FOR SALE: 15—3' x 15' National Tank Company sand hogs—cheap. I. T. I. O., Bartlesville, Oklahoma.

FOR SALE: Several used reconditioned Hughes plunger lift units complete for use with 7" casing and 2⅜" OD or 2⅞" OD tubing. I. T. I. O., Bartlesville, Oklahoma.

FOR SALE: 25,000' of new 2⅞" OD 10 thread 5.73-lb external upset Pittsburgh seamless steel tubing reamed for Hughes plunger lift. Located at our Oklahoma City warehouse. I. T. I. O., Bartlesville, Oklahoma.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor, Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio

FOR SALE
Approximately 5,300' of 4½" drill pipe, excellent condition, 30' lengths mixed tool joints. Located at New Orleans.
MERAUX & NUNEZ, INC.
904-06 Union St. New Orleans, La.

FOR SALE: A large stock of 7" OD McEvoy hand operated blowout preventers. I. T. I. O. Company, Bartlesville, Oklahoma.

FOR SALE: Two Cameron No. 5 six stage centrifugal pumps, one with 500 h.p. GE motor, 30,000 bbl. 24 hours, with 600 h.p. GE motor, 35,000 bbl. 24 hours, synchronous motors with panel boards, good condition. MAX ZEIGLER & BROS., Muncie, Indiana.

FOR SALE—12 miles 5" Plain Ends, double randum length, Super Heated Marine Tubes for high-pressure gas line, located Buffalo, Kansas, will deliver anywhere—Priced right for quick sale—Jay Kornfeld, 415 Brown Bldg. Phones 4-2121 and 4-7056. Wichita, Kansas.

FOR SALE—Two R16 150 HP Climax drilling engines complete. General Machine & Supply Co., Wichita Falls, Texas.

FOR SALE: Two Flash Towers, 1—5 x 20' and 1—5 x 25'. Good condition, located in Okla. City. Phone 2-4066, Box 1992, Oklahoma City, Oklahoma.

FOR SALE—Four 35 HP 4 cycle Superior gas engines. General Machine & Supply Co., Wichita Falls, Texas.

POWER. 16 foot band wheel complete with engine and power house for sale eastern Kansas. E. C. PLATT, 101 W. 11th, Kansas City, Missouri.

FOR SALE: Before moving machine shop to new location, selling our entire stock used pipe, casing, valves, pipe connections, pumps, etc. Elliott Machine & Supply Co., Depew, Okla. See A. D. Elliott.

FOR SALE: 6 class C-10 Sullivan pump heads with 15' stroke used in Oklahoma City operations. I. T. I. O., Bartlesville, Oklahoma.

SEVERAL USED ROTARY RIGS
Spudders and Drilling Machines.
Several Steel Derricks & Rotary Equip.
J. S. Daniel, Beacon Bldg., Tulsa.

Mailing Lists

ROYALTY INVESTORS from pipe line records. Lease investors. Oil Industry Mailing List Co., 909 Tulsa Loan Building, Tulsa, Oklahoma.

ROYALTY OWNERS
Names and addresses in any State.
Royalty Lists, Box 105, Ft. Worth.

Petroleum Eng. Laboratories

GEOLOGIC STANDARDS COMPANY
1800 East 5th Place, Tulsa, Oklahoma.
Porosity-Permeability-Saturation Tests.

For Sale—Equipment

Steel Storage Tanks

50—Practically new 80,000-bbl. steel roof tanks, latest type.

125—55,000-bbl. storage tanks at great saving. Prices quoted on request for tanks standing, cut down, or reerected on your grade. Have all other sizes available. All tanks strictly guaranteed.

All kinds refinery equipment, valves, fittings, machinery, pumps and pump repair parts.

Wire—Phone—Write—W. C. Berry

SONKEN-GALAMBA CORPORATION
64 North Second St. Kansas City, Kansas

Engineering Service

ANNOUNCING a new engineering service. We make dynamometer investigations of central power installations, furnish composite torque diagrams of the pumping cycle and make recommendations for counterbalancing. Individual wells weighed and dynamometer cards furnished. This service will help to isolate your pumping troubles, lower power costs and increase the life of your machinery. We go anywhere in the Mid-Continent.

McKINNEY-TOLSON
ENGINEERING COMPANY
202 Worth Bldg., Fort Worth, Tex.

Refined Products

PARAFFIN WAX
Fully refined, all grades of paraffin scale. Prominent British distributor desires exclusive connection with reliable refinery for perpetual business. Reply stating melting points. Foreign & Domestic Commerce Corp., 10 East 40th St., New York, N. Y.

Incorporations

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

For Sale—Equipment

Ranches and Farm Lands

NORTHERN NEW MEXICO RANCH FOR SALE. On highway, some timber, plenty water, fenced, ranch buildings. Total 11,300 acres, of which 250 acres under cultivation. Full mineral rights. Part of Tierra Amarilla Grant. Price $2.75 per acre. Reasonable terms. W. S. Patterson, Santa Fe, New Mexico.

1,920 acres in one tract, good ranch proposition, prospective oil value $3 per acre; 80 acres, $2 per acre; 160 acres unimproved farm land, near school, on good road $4 per acre. Luther Calahan, Idabel, Okla.

350 ACRE irrigation farm and an adjoining 3,469 acre pasture land for sale. Railroad loading shed in center of farm. County highway passes along side of farm. Location 20 miles northwest of Laredo, Texas Write to JOHN DAVIS, Joyce, Webb County, Texas.

Summer Home

FOR SALE — Large summer home on lake in Northern Wis. Completely furnished. 8 acres. 75 native pines. Every modern convenience. Fine tennis court. E. C. Patterson, 920 So. Michigan Ave., Chicago, Illinois.

Leases—Production

OIL leases block and royalty for sale in Washita and Custer Counties, Okla. J. J. Sallaska, Washita Hotel, Cordell, Oklahoma.

SETTLED PRODUCTION WANTED—Will pay cash for good settled production in Texas if price is right. Please give details first letter. Box H-765, The Oil and Gas Journal, Tulsa, Oklahoma.

Always Ready to Help You

You can acquaint thousands of oil men with your particular want or service through an advertisement in this section of The Oil and Gas Journal.

The interested readers respectfully consider the merits of every advertisement in the Classified Columns because they are always in the market for good deals.

Your lease, royalty, production, equipment or service would appeal to some of them.

Mail your advertisement now for next week's issue so that these men can make a deal with you.

The Oil and Gas Journal

CLASSIFIED DEPARTMENT

Leases—Production

NEW MEXICO—My weekly scout report furnishes complete and reliable information on New Mexico developments. Send for copy. W. S. Patterson, Santa Fe, New Mexico.

ARKANSAS
Does not have any production (proration) restrictions. The opportunity for quick "payouts" is obvious. Investigate Royalty and leases opportunities here.
WILLIAM MONROE LAYTON
P. O. Box 411, Texarkana, Ark.
P. O. Box 949, Hot Springs, Ark.

LANDS Leases, Royalties, anywhere, bought, sold. Lands, $2 acre up. Leases 25c acre, up. Advise needs. American Investment Co., Houston, Texas.

AM ready to figure with you on your bargains in Lands in fee or any type of Oil properties to buy or sell. My thirty years in this business here enables me to know values large or small. E. B. REEVES, Box 475, McLean, Gray County, Texas.

ENTERPRISING corporation owning extensive oil lands in New Mexico desires immediate development. Large drilling blocks in several locations. Attrac. deal to right party. Write Box 961, Roswell, N. M.

SOUTH ARKANSAS Leases and Royalty. Union, Ouachita and Columbia, Clark, Nevada and Hempstead counties with good titles, good play. $1 acre up. H. E. Bemis, 10 McRae Bldg., Prescott, Arkansas.

New Mexico OIL LEASES WHOLESALE
40 acres at a time.
Roy G. Barton, Clovis, New Mexico.

Specializing leases twenty acres up dollar acre, East Tex., La., S. Ark. Owners—Attorney. Box 1122, Little Rock, Ark.

WANTED — Shallow production North and West Texas—also proven leases. Give description, potential acre yield, and cash price. "Petroleros," P. O. Box 383, Dallas, Texas.

GEOLOGISTS say Los Osos Valley Coast better than Santa Maria field. Much land leased, wells drilling—details—Owner, R. 1, Box 125, San Luis Obispo, California.

OKLAHOMA UNDEVELOPED MINERALS—raw lands. $2.00 per acre. Geo. McCoy, 3623 So. Union, Tulsa, Oklahoma.

For Sale—Maps

SOUTHWESTERN UNITED STATES
Includes all of following states: Texas, Louisiana, Mississippi, Arkansas, Oklahoma, Kansas, also Eastern New Mexico. Shows all oilfields by name and location. Alphabetically arranged list on margin of all discoveries these States during 1936. Lithographed. Size 3 x 4 ft. $1. Same map with pipe lines to date, white print with blue lines $7.50. Send for illustrated catalog describing 400 ownership and field maps in Texas and Louisiana.
ZINGERY MAP COMPANY
Houston, Texas

SUCCESSFUL OIL OPERATORS
Are Using
ZINGERY OIL MAPS
Our Up-to-Date Lease and Fee Ownership Maps of Counties and Combination Development Maps Save Time and Money.
WRITE FOR DESCRIPTIVE FOLDER
1937 Revised Edition Map of State of Texas, eastern N. M., parts of southern Okla., SW Ark. and La. shows Oil and Gas Fields in color, Counties and County seat and elevations, co-ordinated alphabetical index of fields and counties.
Price $1.00 postpaid
ZINGERY OIL MAP COMPANY
Fair Building Fort Worth, Texas

A MAP OF every county in Texas. 254 maps showing sections, blocks and surveys with binder. Special $15. Oil City Map Co., Fort Worth, Texas.

POTENTIAL PRODUCTION MAPS all West Texas and Lea County fields. Most up to date County ownership maps. Write for valuable new illustrated catalog now being printed. SOUTHWEST MAPPING CO., Ft. Worth Nat'l. Bldg., Ft. Worth, Tex.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

INDEX TO ADVERTISERS

A

Abercrombie, J. S., Co. 77
Abercrombie Pump Co. 93
Air-Maze Corp. .....
Air Reduction Sales Co. .....
Ajax Iron Works 57
Alco Products, Incorporated 15
Aldrich Pump Co., The .....
Allied Steel Products Corp. .....
Allis-Chalmers Mfg. Co. .....
Allsteel Products Mfg. Co., The ..
American Askania Corp. .....
American Cable Division of American Chain & Cable Co., Inc. ....
American Cast Iron Pipe Company
American Geophysical Co., The ..
American Hammered Piston Ring
American Iron & Machine Works.
American Lubricator Company ..
American Manganese Steel Company .....
American Meter Company 16
American Roller Bearing Company
American Rolling Mill Company ..
American Sand-Banum Co., Inc. ..
American Seismograph Company.
American Steel & Wire Company.
Appleton-Atlas Car Mover Corporation 96
Arrowhead Iron Works .....
Athey Truss Wheel Co. .....
Atlas Drop Forge Co. 93
Atlas Imperial Diesel Engine Co. 43
Atlas Supply Co. .....
Auer, C. L., and W. W. .....
Axelson Manufacturing Company.

B

Baash-Ross Tool Company .....
Babcock & Wilcox Tube Co., The.
Badger & Sons Co., E. B. .....
Bakelite Corporation .....
Baker Oil Tools, Inc. 18
Baldwin-Duckworth Chain Corporation .....
Baldwin-Southwark Corporation..
Baroid Sales Company 60
Barret, William M., Inc. .....
Barrett Company, The 52A
Beaumont Iron Works Co. .....
Bethlehem Steel Co. 1-52B-52C
Black, Sivalls & Bryson, Inc. .....
Boston Woven Hose & Rubber Co. 48
Braden Steel Corporation .....
Bradford Motor Works, Inc. .....
Brewster Company, The .....
Bridgeport Machine Company ... 59
Broderick & Bascom Rope Co. ...
Brown Instrument Co., The .....
Buckeye Traction Ditcher Co., The
Butler Manufacturing Co. .....
Byron Jackson Co. .....

C

Cameron Iron Works, Inc. .....
Carey Company, Phillip .....
Carnegie-Illinois Steel Corporation
Carson Machine & Supply Co. ...
Cast Iron Pipe Research Association, The .....
Caterpillar Tractor Co. 2-3
Central Forging Co., The .....
Chain Belt Company .....
Chaplin-Fulton Mfg. Co., The 92
Chapman Valve Mfg. Co., The ...
Chemical Process Co., Inc., The ...
Chevrolet Motor Company .....
Chicago Bridge & Iron Company.
Chiksan Oil Tool Co., Limited ...
Cities Service Oil Co. .....
Clark Brothers Company .....
Classified Advertising 118-119
Cleveland Trencher Company, The
Climax Molybdenum Company ... 12
Colox Sales and Service .....
Columbian Steel Tank Co. .....
Consolidated Chemical Industries, Inc. .....
Continental National Bank of Fort Worth .....
Continental Oil Co. .....
Continental Supply Company, The
Cooper, Fred E. .....
Cooper-Bessemer Corp., The ... 40-41
Coppus Engineering Corp. .....
Crane Co. 7
Crane Packing Co. .....
Crutcher-Rolfs-Cummings, Inc. ...
Cummins Engine Company .....
Curtin, W. H., and Co., The .....

D

Darling Valve & Mfg. Co. .....
Davis Regulator Co. .....
De Cavel & Roegiers .....
Dearborn Chemical Company ....
De La Vergne Engine Co. .....
Demag .....
Devine, J. P., Mfg. Co., The .....
Dewey Portland Cement Co. .....
Diamond Chain & Mfg. Co. .....
Dodge Mfg. Corporation .....
Doheny Stone Drill Co. .....
Dow Chemical Company .....
Dowell, Incorporated .....
Dresser, S. R., Mfg. Co. 52D
Du Pont de Nemours & Co., Inc., E. I. .....

E

Eagle-Picher Lead Co. .....
Eastman Oil Well Survey Co. ....
Economy Electric Lantern Co. ..
Edward Valve & Mfg. Co., Inc. ..
Eiche, R. J. .....
Emsco Asbestos Company .....
Emsco Derrick & Equipment Company .....
Engineering Laboratories, Inc. ..
Ensign Carburetor Company, Ltd.
Ethyl Gasoline Corporation .....
Eureka Tool Co. .....
Everstick Anchor Co. .....

F

Failing Supply Co., Geo. E. .....
Fairbanks, Morse & Co. .....
Filtrol Co. of California .....
First National Bank of Fort Worth
First National Bank & Trust Co. of Tulsa, The 72
Fisher Governor Company .....
Fluid Packed Pump Co. .....
Fluor Corporation, Ltd. .....
Foote Bros. Gear and Machine Corporation .....
Ford Motor Co. .....
Foster Wheeler Corp. .....
Four Wheel Drive Auto Co., The .
Foxboro Co., The .....
Franks Mfg. Corp. .....
Frick-Reid Supply Corporation .. 9

G

Gardner-Denver Company .....
Garlock Packing Company, The .
Gaso Pump & Burner Mfg. Co. ... 68
Gasoline Products Co., The .....
Gates Rubber Co., The .....
Gatke Corporation .....
Gearench Mfg. Co. .....
General American Transportation Corporation—Terminal Division
General Electric Company .....
General Motors Truck Co. .....
General Paint Co. .....
General Power, Inc. .....
Geophysical Service, Inc. .....
Gilmer Company, L. H. .....
Globe Oil Tools Company .....
Goodall Rubber Company .....
Gott, H. P., Mfg. Co. .....
Goulds Pumps, Inc. .....
Grant Oil Tool Company .....
Graver Tank & Mfg. Co., Inc. ....
Gray Processes Corporation, The.
Great Lakes Coal & Coke Co. ....
Green Head Bit & Supply Co. ....
Gregory Company, The L. S. 6
Guiberson Corporation, The ....
Gulf Coast Machine & Supply Co.
Gulf Oil Corp. .....
Gulf States Utilities Co. .....
Gustin-Bacon Mfg. Co. .....

H

Halliburton Oil Well Cementing Co. ..... Inside Front Cover
Hanlon-Buchanan, Inc. .....
Happy Belting Company 48
Harnischfeger Corporation .....
Harrisburg Steel Corporation ....
Hazard Wire Rope Division of American Chain & Cable Co., Inc. 67
Heeter, C. M., Sons Co. .....
Hercules Tool Company .....
Hewitt Rubber Corp. .....
Hinderliter Tool Company .....
Hoard Exploration Company ....
Holder-Jewell .....
Hopper Machine Works, Inc. ....
Hough Mfg. Co., The Charles N. ..
Houston Oil Field Material Company .....
Hughes Tool Co. ..... Back Cover
Humble Oil & Refining Co. .....
Hyatt Bearings Division, General Motors Corporation .....
Hydrauger Corporation, Ltd. ....
Hydril Co. .....

I

Independent Exploration Company
Independent Pipe & Supply Co., Inc. .....
Ingersoll-Rand Co. .....
International Derrick & Equipment Co., The .....
International Filter Co. .....
International Harvester Co. of America, Inc. .....
International Nickel Company, Inc., The .....
International Supply Co. .....

J

J & S Carburetor Co. .....
Jarecki Manufacturing Company .
Jeffery Mfg. Co. .....
Jenkins Bros. .....
Jensen Brothers Manufacturing Co. .....
Jerguson Gage & Valve Co. .....
Johns-Manville Corporation .....
Johnston & Jennings Co. (Oceco Division) .....
Johnston, M. O., Oil Field Service Corp. .....
Jones & Laughlin Steel Corporation .....

K

Kellogg, M. W., Company, The ..
Kennedy Valve Mfg. Co., The ....
Kerotest Manufacturing Co. .....
Key Company .....
Keystone Driller Co. 96
Kibele Manufacturing Co. .....

L

Lands Machine Co., The .....
Lane-Wells Co., The .....
Larkin Packer Co. Inside Back Cover
Lawrence System .....
Layne and Bowler Co., The 74
Layne & Bowler, Inc. .....
Leach Co., C. H., Inc. .....
Leeds & Northrup Company .....
Leonard Construction Co. .....
Leschen, A., & Sons Rope Co. ....
Lincoln Electric Company, The ..
Linde Air Products Co., The ....
Link-Belt Company 11
Lockheed Aircraft Corporation ..
Lone Star Cement Corporation ...
Lucey Products Corporation .....
Ludlow Valve & Mfg. Co., The .. 97
Lufkin Foundry & Machine Co. ..
Lufkin Rule Co., The .....
Lummus Co., The .....
Lunkenheimer Co., The .....

Mc

McAlear Mfg. Co., The .....
McCord Radiator & Mfg. Co. .....
McGregor Working Barrel Company .....
McKissick Products .....

M

MacClatchie Manufacturing Company .....
Macwhyte Co. .....
Maguire, Russell, & Co. .....
Maloney Tank Mfg. Co. .....
Manhattan Rubber Mfg. Division
Manzel Brothers Company .....
Marley Company, The .....
Marmon-Herrington Co., Inc. ....
Martin-Decker Corp. 80
Mathey Machine Works, C. A. ...
Mattison-Wallick & Co. .....
Medart Company, The .....
Meehanite Metal Corporation 85
Mepham, Geo. S., Corporation ...
Merco Nordstrom Valve Co. .....
Metric Metal Works .....
Midco Tool & Supply Co. .....
Midwest Piping & Supply Company, Inc., The .....
Miller Fuel Engineering Co., Inc..
Miller Sand Pump Co. .....
Minneapolis-Moline Power Implement Company .....
Mission Mfg. Co., The 8
Monsanto Chemical Company ....
Muskogee Iron Works .....

N

National Airoil Burner Company . 96
National Bank of Tulsa .....
National Lead Co. .....
National Supply Co., The 37
National Transit Pump & Machine Co. .....
National Tube Co. 14
Natural Gas Equipment Co. of Texas .....
Naylor Pipe Company 10
New Deal Specialty Co., The 84
Newman, Hender & Co., Ltd. ....
Non-Corrosive Products Co., Ltd., (Mfrs.) .....
Norvell-Wilder Supply Company .

O

O-K Machine & Manufacturing Co.
O'Bannon Co., Walter .....
Oceco Fittings .....
Oil Center Tool Co. .....
Oil Well Supply Company .....
Oil World Exposition .....
Oklahoma Gas and Electric Company .....
Oklahoma Portland Cement Co. ..
Otis Pressure Control, Inc. .....
Owens-Illinois Glass Company ... 54
Oxweld Acetylene Company .....

P

Page Steel & Wire Division of American Chain & Cable Co., Inc. .....
Parkersburg Rig & Reel Co., The .
Parsons Co., The Ralph M. .....
Parsons Company, The .....
Patterson-Ballagh Corporation ...
Penberthy Injector Co. .....
Pennsylvania Grade Crude Oil Association .....
Petroleum Electric Power Club .. 13
Petroleum Engineering, Inc. ....
Petroleum Engineering Research Co. 6
Petroleum Equipment Company .
Petroleum Iron Works Company .
Petroleum Specialty Company, The
Petty Geophysical Engineering Co. .....

P

Pittsburgh-Des Moines Steel Company .....
Pittsburgh Equitable Meter Co. ..
Pittsburgh Steel Company .....
Polymerization Process Corporation, The .....
Pomona Pump Co. .....
Portable Rig Co. .....
Preformed Wire Rope .....
Prest-O-Lite Company, Inc., The ..
Price, Inc., H. C. .....
Pure Oil Co. .....

R

Reading-Pratt & Cady Division of American Chain & Cable Co., Inc. .....
Rector Well Equipment Co., Inc.
Reed Roller Bit Company 77
Regan Forge & Engineering Co. .. 77
Reilly Tar & Chemical Corporation .....
Republic Steel Corporation .....
Ridge Tool Co., The .....
Rieber Laboratories .....
Ryerson & Son, Inc., Joseph T. .. 97

S

Schlumberger Well Surveying Corporation .....
Seamless Steel Corporation .....
Security Engineering Co. .....
Seismograph Service Corp. .....
Shaffer Specialty Co., The .....
Shaffer Tool Works .....
Shand & Jurs Co. 62
Sharples Specialty Co., The .....
Shell .....
Sinclair Refining Company, Inc. . 73
Skinner Co., M. B. .....
Smith, A. O., Corporation 4-5
Smith Company, E. M. .....
Smith, Nowery J., Supply Company .....
Smooth-On Mfg. Co. .....
Socony-Vacuum Oil Co. .....
South Chester Tube Co. .....
South Texas Geophysical Corp. ..
Spang, Chalfant & Co., Inc. .....
Sperry-Sun Well Surveying Co. .. 97
Stahmer Shoe Co., F. H. .....
Standard Brake Lining Co. 77
Star Drilling Machine Company ..
Star Manufacturing Company ....

T

Taylor Instrument Companies ....
Texaco Development Corporation.
Texas Iron Works .....
Texas Steel Co. .....
Thornhill-Craver Co., Inc. .....
Timken Roller Bearing Company. Front Cover
Timken Steel & Tube Co. .....
Tnemec Company, Inc. .....
Toledo Pipe Threading Machine Co. .....
Trackson Company .....
Tretolite Co. .....
Trinity Portland Cement Company
Tube Turns, Inc. .....
Tulsa Chamber of Commerce ....
Twin-Disc Clutch Co. .....

U

Union Carbide & Carbon Corporation .....
Union Carbide Sales Company ...
Union Wire Rope Corporation ....
United American Bosch Corp. 86
United States Rubber Company ..
United Supply & Manufacturing Company .....
U. S. Steel Corp., Subsidiaries ...
Universal Atlas Cement Co. 33
Universal Oil Products Co. 34

V

Vernon Tool Co., Ltd. .....
Vogt, Henry, Machine Co. .....
Vortox Mfg. Co. .....

W

Waldron Corp., John .....
Wall Rope Works, Inc. .....
Walworth Company .....
Warren Petroleum Company .....
Watson-Stillman Co., The .....
Waukesha Motor Company .....
Westinghouse Electric .....
Wheatley Bros. .....
Wheeling Machine Products Co. .. 96
Wickwire Spencer Steel Company
Williams & Co., J. H. .....
Williamsport Wire Rope Co. 46
Wilson Manufacturing Co. .....
Wilson-Snyder .....
Wilson Supply Company .....
W. K. M. Company, Inc. 50
Worthington Pump & Machinery Corporation .....
Wyatt Metal & Boiler Works ....

Y

Young Radiator Company 81
Youngstown Sheet & Tube Co., The

Want a steel structure in a hurry?
Let Bethlehem handle the job

BETHLEHEM STEEL COMPANY, largest steel construction organization in the world, has a unique set-up that makes for speed in building any type of steel structure.

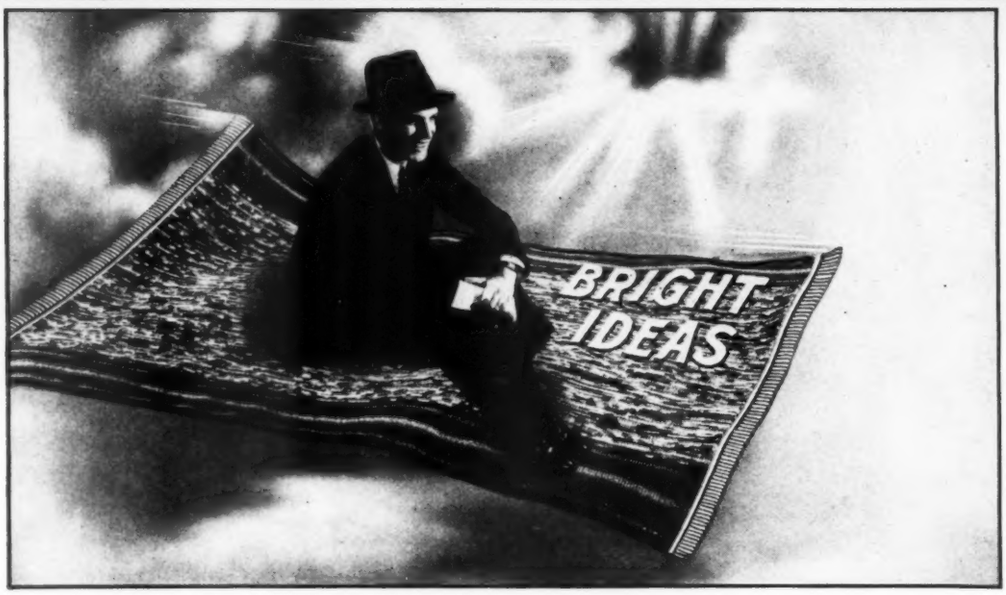
Bethlehem's steel fabricating and erecting facilities are completely coordinated with steel-making plants. Structural mills, plate mills, foundries, forging shops—even a large bolt, nut and rivet plant—cooperate with the construction division—swing into action instantaneously to supply urgently-needed materials with a minimum of delay.

Fabricating plants and depots of erection equipment at strategic locations throughout the country and a background of construction experience extending back to the building of the locks of the Panama Canal add to Bethlehem's ability to serve those in the market for steel structures.

BETHLEHEM STEEL

BETHLEHEM STEEL COMPANY

Ride this magic carpet to PROFITLAND!



Let the Cities Service proved Sales Plan and tested sales promotion ideas lead you to greater gallonage and greater profits. Exclusive territories available

If you're worried about business... if competition seems unbeatable... if your gallonage is decreasing and your profits slipping...don't give up the ship. Get in touch with Cities Service at once and learn about our 3-point plan that will solve your problem as it has for dozens of other distributors. This plan includes:

1 An *exclusive territorial franchise* ... no invasion... the territory is yours to develop... yours to profit from. The customers you sell are *yours* to keep.

2 *Constant sales promotion help*... tested ideas that have been found successful in 38 states where Cities Service products are marketed.

3 A *proved sales plan*... one that sold millions of gallons to new customers during the worst years of the depression.

But... don't wait. Start increasing your gallonage and profits at once. Write, wire or telephone today to the Cities Service marketing company nearest you for full details.

Exclusive territorial franchise is not offered in states where such arrangements are illegal.

CITIES SERVICE OIL COMPANY
Chicago, Illinois

CITIES SERVICE OIL COMPANY
New York, N. Y.

CITIES SERVICE OIL COMPANY
Boston, Massachusetts

CITIES SERVICE OIL CO., LTD.
Toronto, Ont., Canada

EMPIRE OIL & REFINING CO.
Tulsa, Oklahoma

ARKANSAS FUEL OIL COMPANY
Shreveport, Louisiana

CITIES SERVICE

RADIO CONCERTS... every Friday at 8 P. M. (E.D.T.)... WEAF and 43 associated N.B.C. stations

CITIES SERVICE OILS AND GASOLENES

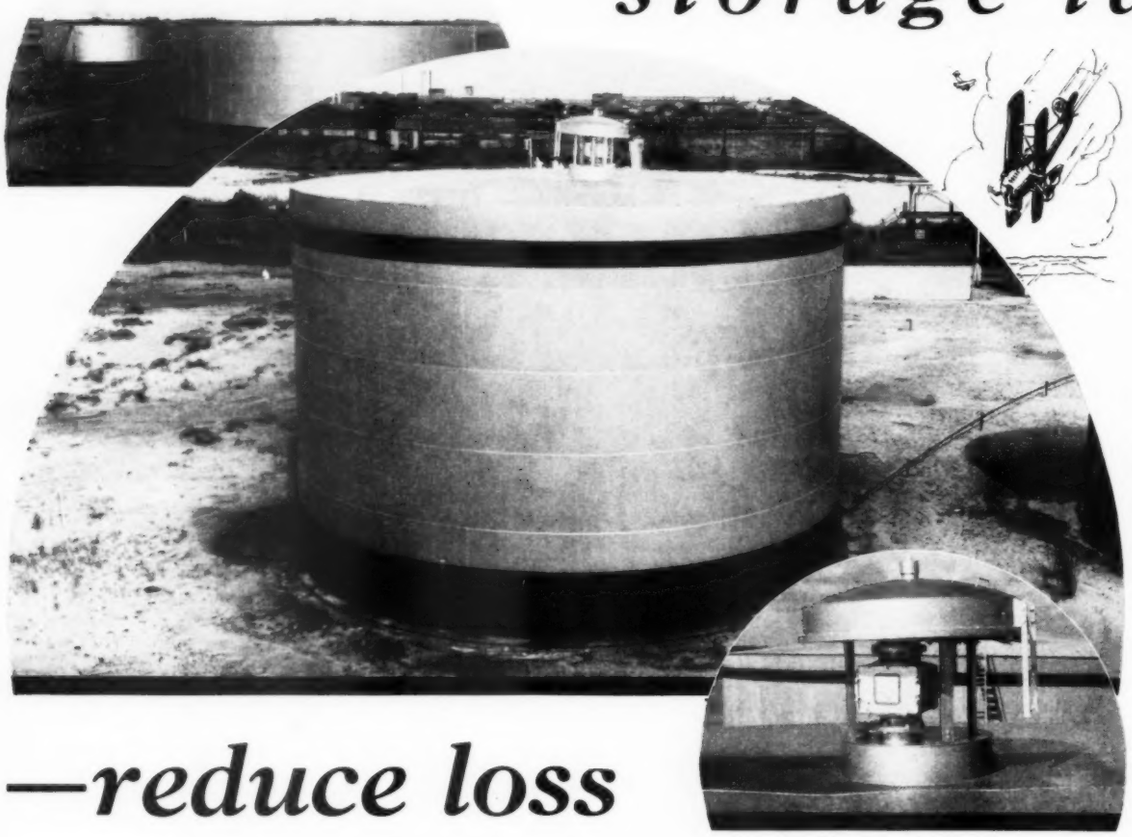
The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription prices: Domestic, $6.00 a year; foreign, $7.00 a year. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Oklahoma, under the Act of March 3, 1879.

RUST HAS ONE PURPOSE—
RUIN
for sure protection use
DUTCH BOY
RED-LEAD
RUST is no jack-of-all-trades. He's a specialist... the No. 1 enemy of metal... devoting all his energy to its destruction. But he gets nowhere—when the protective paint is Dutch Boy Red-Lead. Paint made with Dutch Boy Red-Lead provides a solid, tough, tenacious coating—one that not only keeps out moisture but also resists the destructive action of other common causes of corrosion—such as gases, smoke and salt water.
Dutch Boy Red-Lead comes in both paste and liquid form, the latter including a quick-drying type for use when allowable drying time is short. The pigment in every case is pure red-lead that contains more than 97% Pb_3O_4, thus assuring easier application, higher spreading rate and a uniform film of greater density.
For complete information on protecting iron and steel against corrosion, send for our free booklet, "Structural Metal Painting." It covers such subjects as the conditions affecting the life of paint on metal, proper paint formulation, testing and judging the value of paint, estimating areas and costs.
• • •
NATIONAL LEAD COMPANY
111 Broadway, New York; 116 Oak St., Buffalo; 900 West 18th St., Chicago; 659 Freeman Ave., Cincinnati; 1213 West Third St., Cleveland; 722 Chestnut St., St. Louis; 2240 24th St., San Francisco; National-Boston Lead Co., 800 Albany St., Boston; National Lead & Oil Co. of Penna., 316 Fourth Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Bldg., Philadelphia.

[**LITHARGE of correct physical character and extreme chemical purity is a necessity in oil refining. Such litharge is made by us. You can always rely on its unvarying uniformity. Our nearest warehouse can give you quick shipment.**]

WIGGINS BREATHER ROOFS

for standing storage tanks—



Upper left: Wiggins Breather Roofs on 134,000 bbl. tanks. Center: 10,000 bbl. tank used by Pure Oil Co. at Pensacola, Fla. for fighting grade aviation gasoline. Lower right: Closeup view of new type vapor control valve used on Wiggins Breather Roofs.

—reduce loss of Volatile Motor Fuels

From Fighting Grade Aviation Gasoline on Down

AS the trend in motor fuels advances steadily toward higher and higher volatility, so does the seriousness of loss by evaporation become greater and greater. To guard against these losses, more and more companies are capitalizing on the protection offered by Wiggins Roofs on storage tanks.

For oil in standing storage, or not being turned over very many times a year, the Wiggins Breather Roof is just right—both from the standpoint of efficiency as well as economy. And, as is indicated by the accompanying illustrations, it is effective even for such volatile products as the fighting grade aviation gasoline stored in the tank illustrated above. Ability to conserve this product satisfactorily speaks well of its efficiency when handling more common grades. And conversely, it assures you that here is an improvement that will remain up-to-date through a long period of increasing volatility in motor fuel.

How much savings are possible through use of Wiggins Breather Roofs for your standing storage tanks can best be estimated by comparison with similar existing installations. Our engineers have accumulated records covering a wide variety of conditions. Address our nearest office for information and recommendations.

CHICAGO BRIDGE & IRON COMPANY

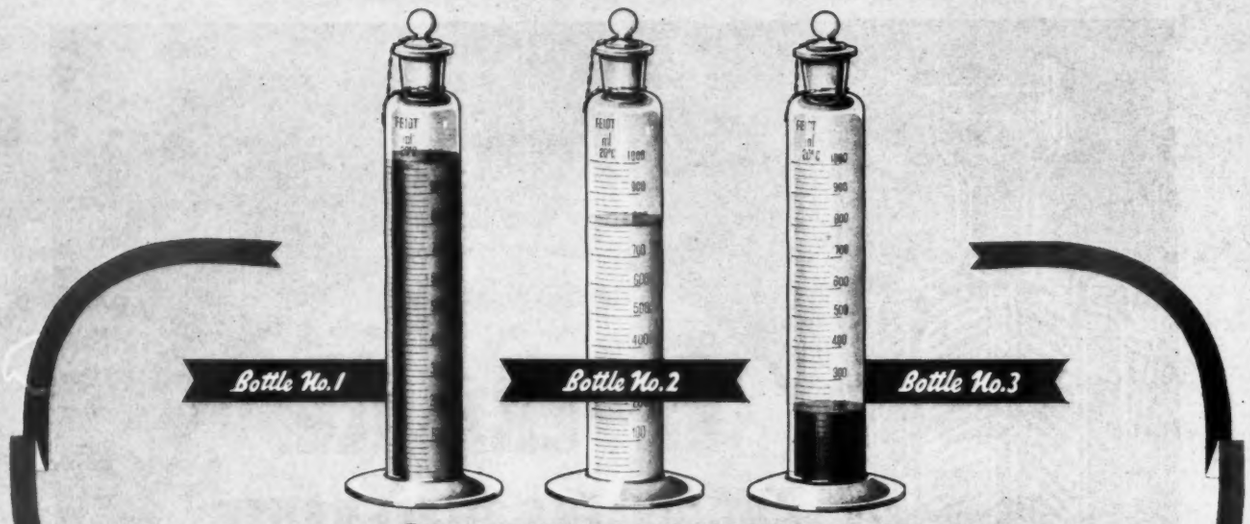
Dallas	1441 Liberty Bank Building	Philadelphia	1615-1700 Walnut Street Building
Houston	2919 Main Street	Boston	1517 Consolidated Gas Building
Tulsa	1606 Hunt Bldg.	San Francisco	1054 Rialto Building
Birmingham	1536 North Fiftieth Street	Los Angeles	1423 Wm. Fox Building
Chicago	2128 Old Colony Building	Cleveland	2204 Rockefeller Building
Detroit	1514 Lafayette Building	New York	3347-165 Broadway Building

FABRICATING PLANTS in Birmingham, Chicago, and Greenville, Pa.

EXPERIENCE
KNOWS THE DIFFERENCE
● There's a difference—steels to be handled in the field—steels for shop fabrication. Republic makes both kinds and, furthermore, because of its pioneering activities over the years and its accumulated alloy experience—knows what to recommend as the most economical alloy or carbon steel for every type of service. Ask a Republic metallurgist—let him help cut your costs.
Republic Steel
GENERAL OFFICES . . . CLEVELAND, OHIO
ALLOY STEEL DIVISION . MASSILLON, OHIO
REPUBLIC
STEEL

When writing Republic Steel Corporation for further information, please address Department OG.

THERE'S *THIS* DIFFERENCE



BETWEEN *GULFPRIDE* AND OTHER
100% PENNSYLVANIA OILS

BOTTLE No. 1 contains a highly refined Pennsylvania motor oil—an oil for which you would be glad to pay a premium. Put this oil through a process called ALCHLOR refining—the patented process by which Gulfpride is refined—and what happens?

BOTTLE No. 2 gives the answer. Only 80% of the volume remains—a purer, cleaner, more highly refined oil. A full 20% has been discarded by the ALCHLOR process.

BOTTLE No. 3 contains the black residue which has been removed from the mixture. It is made up largely of harmful semi-lubricating waste that forms carbon, sludge and gum in a motor.

* * *

IN SHORT, the ALCHLOR process can better what has been considered the best of Pennsylvania oils. The ALCHLOR process starts where others stop, and Gulfpride oil is the only 100% Pennsylvania oil in the world made by the ALCHLOR process.

With Gulfpride in your automotive equipment, you know it is receiving the best protection ever afforded by a lubricant. You know that Gulfpride oil — stripped of the impurities which cause motor difficulties — will give you the safest, most economical lubrication you have ever had.

The first cost of Gulfpride is a little more than the cost of most other oils. But thousands of users have satisfied themselves that this superior lubricant saves its cost over and over again through the economies which accompany its use. We believe that in the long run, Gulfpride oil is the *least* expensive lubricant you can use. Give it a trial in your equipment.

GULF OIL CORPORATION • GULF REFINING COMPANY
GENERAL OFFICES: GULF BUILDING, PITTSBURGH, PA.

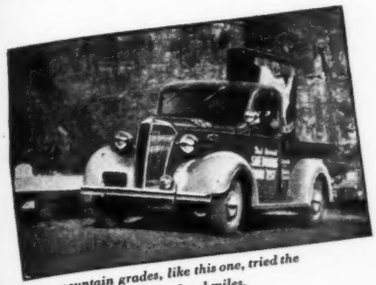
GULF INDUSTRIAL LUBRICATION

Longer life for automotive equipment, lowest oil consumption and highest engine efficiency —those are the results Gulfpride users from Maine to Texas are reporting. Refined by the ALCHLOR process, Gulfpride costs little more than oils refined by less effective methods.

Here's Proof

of record economy-record dependability

A. A. A. officials selected the half-ton pick-up at Chevrolet's Flint plant.



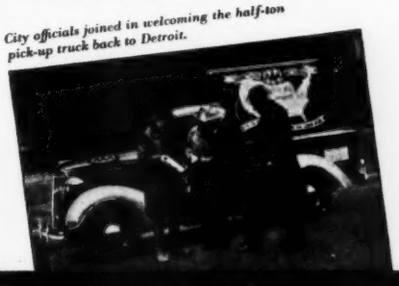
Long mountain grades, like this one, tried the truck's mettle over many hard miles.

Over high peaks in high gear the truck went forward, never faltering.

The searing sands of the desert, with temperatures up to 116 degrees, were met with ease.

The thermometer held below freezing for days, with highways covered with snow.

The first oil—two quarts were added at San Francisco, after 3,850 miles.



City officials joined in welcoming the half-ton pick-up truck back to Detroit.

CHEVROLET "ECONOMY MODEL" TRUCK

hauls certified 1000-pound load

10,244 MILES

at cost of less than

1¢ PER MILE

for gas

This Chevrolet "Economy Model" truck was equipped with Genuine Chevrolet Accessories.

Study this

unequaled record—then buy

CHEVROLET TRUCKS

Location of Test	'Round the Nation — Detroit to Detroit
Distance Traveled	10,244.8 Miles
Gasoline Used	493.8 Gallons
Oil Consumed	7.5 Quarts
Water Cost	1 Quart
Gasoline Cost	$101.00
Gasoline Mileage	20.74 Miles per Gallon
Average Speed	31.18 Miles per Hour
Running Time	328 Hours, 31 Minutes
Gasoline Cost per Mile	$.0098
Average Oil Mileage	1,305.9 Miles per Qt.
Total Cost of Repair Parts	$.73

These records have been certified by the A. A. A. Contest Board as being officially correct.

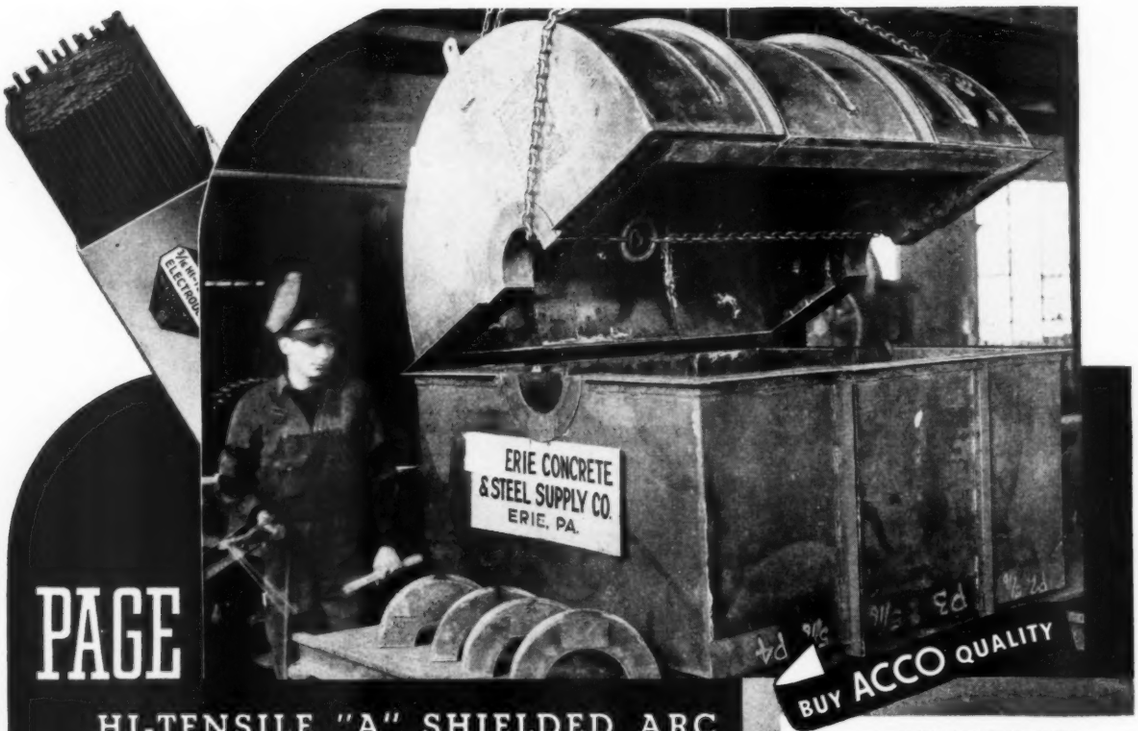
Here, in these amazing facts and figures, is definite proof that Chevrolet trucks are the best trucks for you! . . . See your nearest Chevrolet dealer today, and buy Chevrolet trucks for *more power per gallon, lower cost per load*—for maximum dependability and maximum all-round economy.

CHEVROLET MOTOR DIVISION
General Motors Sales Corporation
DETROIT, MICHIGAN

FOR ECONOMICAL CHEVROLET TRANSPORTATION

General Motors Installment Plan—monthly payments to suit your purse.

"MORE POWER per gallon LOWER COST per load"



PAGE

HI-TENSILE "A" SHIELDED ARC ELECTRODES ARE MADE FOR JOBS LIKE THIS . . *There is a* PAGE ELECTRODE *to meet any welding condition . .*

● Speed and economy in welding are largely a matter of using the correct welding rod for each particular job requirement. For welding the work illustrated here, Page Hi-Tensile "A" electrodes provided the free flow and low spatter required for clean high speed welds.

Whatever your requirements may call for in a welding rod, Page can supply it. Page Hi-Tensile "C" Electrode, high in tensile strength and ductility, low in spatter and slag, is a standard all position rod. Page Hi-Tensile "F", the new all-purpose rod, is especially effective for high speed single pass welding. And for particular requirements there are other equally efficient Page Welding Electrodes.

To insure uniformity in grain structure, each Page Electrode is processed. This treatment fits it for the particular type of welding for which it is recommended. All Page Electrodes are shop tested.

Your local Page distributor can give you details of the different Page Electrodes and meet your requirements from his ample stock.

PAGE STEEL & WIRE DIVISION
AMERICAN CHAIN & CABLE COMPANY, INC.
MONESSEN, PENNSYLVANIA

In Business for Your Safety

A FEW OF THE 137 AMERICAN CHAIN & CABLE INDUSTRIAL PRODUCTS

AMERICAN CHAIN DIVISION
(DOMINION CHAIN COMPANY, Ltd., in Canada)
Weed Tire Chains • Welded and Weldless Chain • Malleable Castings • Railroad Specialties

AMERICAN CABLE DIVISION
Tru-Lay Preformed Wire Rope • Tru-Loc Processed Fittings • Crescent Brand Wire Rope Tru-Stop Brakes

ANDREW C. CAMPBELL DIVISION
Abrasive Cutting Machines • Floformers Special Machinery • Nibbling Machines

FORD CHAIN BLOCK DIVISION
Chain Hoists • Trolleys

HAZARD WIRE ROPE DIVISION
Green Strand Wire Rope • "Korodless" Wire Rope • Preformed Spring-Lay Wire Rope • Guard Rail Cable

HIGHLAND IRON & STEEL DIVISION
Wrought Iron Bars and Shapes

MANLEY MANUFACTURING DIVISION
Automotive Service Station Equipment

OWEN SILENT SPRING COMPANY, Inc.
Owen Cushion and Mattress Spring Centers

PAGE STEEL AND WIRE DIVISION
Page Fence • Wire and Rod Products Traffic Tape • Welding Wire

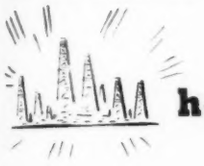
READING-PRATT & CADY DIVISION
Valves • Electric Stee Fittings

READING STEEL CASTING DIVISION
Electric Steel Castings, Rough or Machined

WRIGHT MANUFACTURING DIVISION
Chain Hoists • Electric Hoists and Cranes

PAGE *Welding* WIRE

Synonymous with safety...

THE ALL-ELECTRIC OPERATION of Lane-Wells Gun Perforators is every well operator's guarantee of safety. 7000 successful jobs  have proven it safer than any combined mechanical and percussion method. Every Lane-Wells perforation job is handled by our trained crew. Buzzers, lights and two-way public address systems have made premature firing impossible. Lane-Wells gun loads are impervious to percussion and last but not least the safety set-up is completed by full liability insurance on life and property.

THE LANE-WELLS CO.

Gun Perforator Service

"TOMORROW'S TOOLS TODAY"

LOS ANGELES, CALIFORNIA • NEW YORK CITY, NEW YORK

THE LANE-WELLS CO. OF TEXAS—HOUSTON & CORPUS CHRISTI • THE LANE-WELLS CO. OF OKLAHOMA—OKLAHOMA CITY & TULSA

NAPHTHAS · FUEL OILS · DIESELINE

KEROSENE · GASOLINE · INDUSTRIAL

AUTOMOBILE LUBRICANTS

BRIGHT STOCKS

Nine strategically located **SHELL** *Refineries*

CALIFORNIA

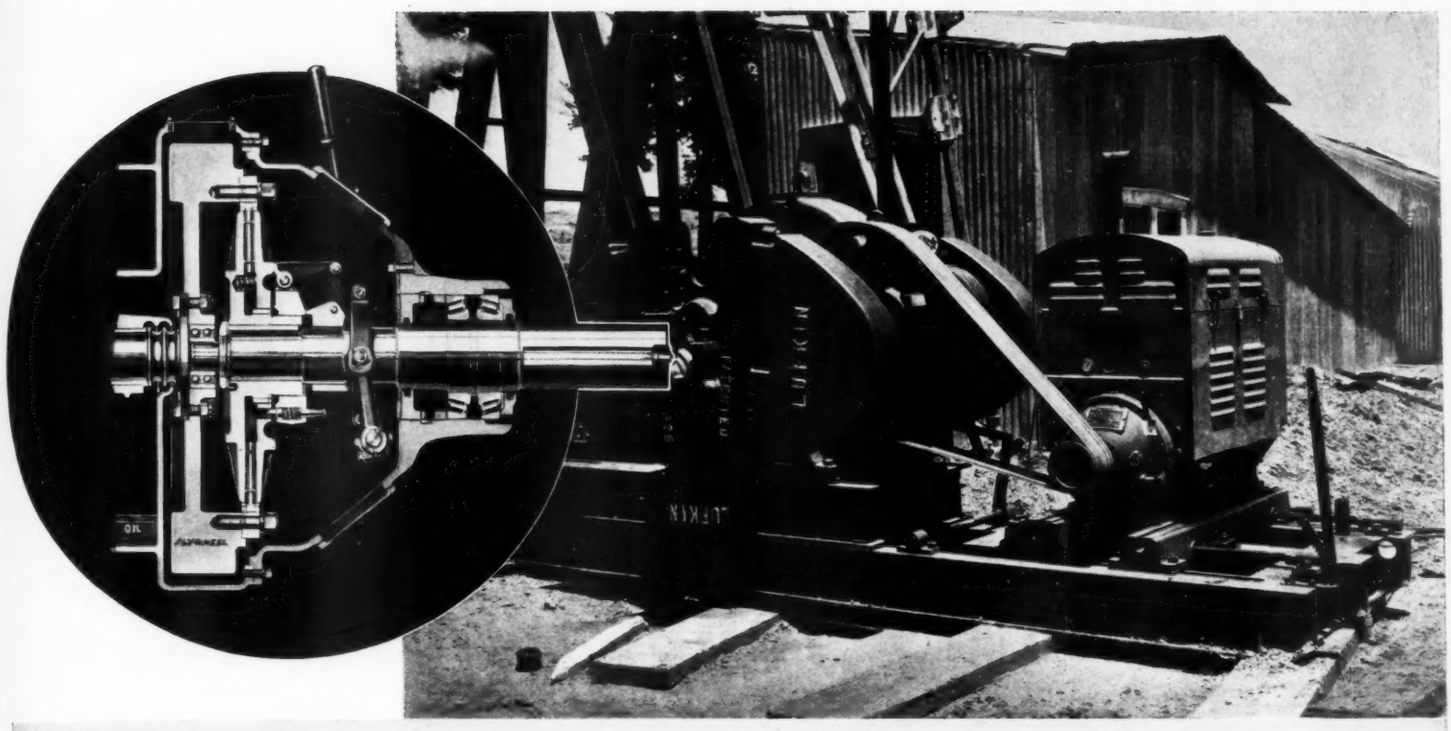
COALINGA, DOMINGUEZ, MARTINEZ, WILMINGTON

GULF COAST

HOUSTON, TEXAS; NORCO, LA.

MID-CONTINENT

EAST CHICAGO, IND.; WOOD RIVER, ILL.; ARKANSAS CITY, KANSAS



Over a million horsepower

CAN'T BE WRONG . . . .

This Lufkin pumping unit . . . used by the Magnolia Petroleum Company at Alonzo Hicks 2, north of Kilgore, Texas . . . is powered by a VIKU 40-45 hp. Waukesha Oil Well Pumping Engine equipped with a Twin Disc Power Take-Off Unit.

Thirty years of specialized experience has enabled Waukesha engineers to build oil well pumping engines for every fuel. Since their first appearance in oil field service, back in 1923, well over a million horsepower of Waukesha Engines have been placed in oil field service. Waukesha's past experience with Twin Disc Power Take-Offs, as well as the experience of a number of their clients is their reason for selecting Twin Disc.

Everywhere in the oil fields . . . regardless of who makes the engine or who builds the rig . . . you'll almost invariably find that Twin Disc is standard equipment.

Write for specific recommendations. Engineering data on request.

TWIN DISC CLUTCHES

TWIN DISC CLUTCH COMPANY
1328 RACINE STREET — RACINE, WISCONSIN

SALES AND SERVICE OFFICE
310 EAST 4TH STREET — TULSA, OKLAHOMA

use

*SICROMO

refinery tubes and save

SICROMO Refinery Tubes are available at a cost that represents a substantial saving as compared with higher percentage chromium alloys.

Furthermore, SICROMO tubes compare very favorably with the more expensive alloys in other desirable characteristics such as creep strength, reserve strength and high temperature yield stress value.

You will find it pays to use SICROMO tubes wherever operating conditions demand high resistance to oxidation and corrosion.

We will appreciate the opportunity of discussing your requirements at any convenient time.

TIMKEN STEEL AND TUBE DIVISION

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

Manufacturers of *Timken Tapered Roller Bearings for automobiles, motor trucks, railroad cars and locomotives and all kinds of industrial machinery; *Timken Alloy Steels and Carbon and Alloy Seamless Tubing; and *Timken Rock Bits.

* TRADE-MARK REG. U. S. PAT. OFF.

TIMKEN

SEAMLESS STEEL TUBES

PROTECTION

against SOUR CRUDE

COLUMBIAN COP-NIC

GALVANIZED BOLTED STEEL TANKS

Built especially for storing sour crude — Last longer in or during service

Here's protection against corrosive action . . . protection for your pocketbook . . . protection that assures perfect storage for sour crude.

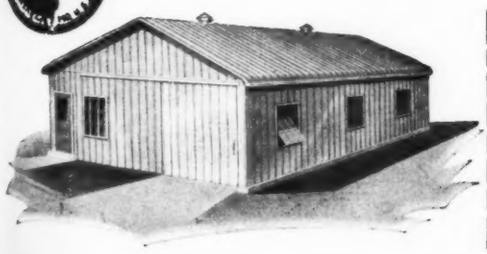
COP-NIC steel with a special galvanized coating makes Columbian Bolted Tanks highly resistant to corrosive action and perfect for use in sour crude districts. The sheets from which these tanks are made are of selected base material. An exclusive galvanizing process is used to put on a heavy coating of zinc spelter which is applied in such a manner as to become virtually a part of the steel itself, minimizing the possibility of any pitting or loosening of the coating.

The unusual results obtained with these COP-NIC Galvanized Tanks are attributed to the process used in preparation of the sheets, of the coating, and the manner of fabrication which does not destroy or render ineffective the galvanized coating.

Protect your tank investment with Columbian COP-NIC Tanks. *Mail the coupon now for full facts.*

METAL WAREHOUSES

Columbian Readyformed All-Metal Buildings have become standard equipment in the oil industry. Combining portability, fire resistance and extreme durability, they are ideal for warehouses, engine and pumping houses, garages, etc.



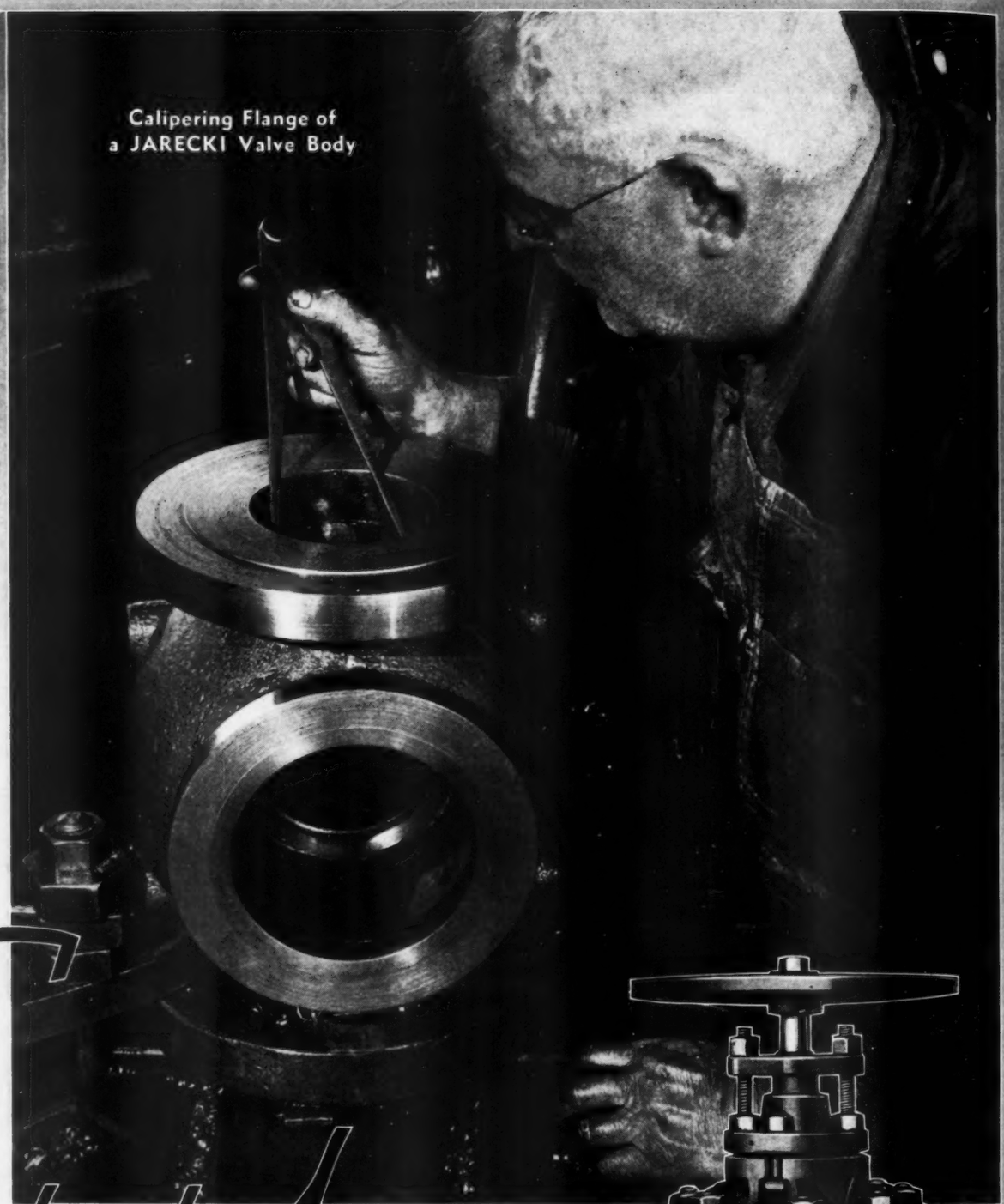
COLUMBIAN STEEL TANK CO., Dept. OJ, Kansas City, Mo., U.S.A.
Please send information on the following:

- ☐ COP-NIC Tanks
- ☐ Metal Warehouses
- ☐ Regular Bolted Steel Tanks
- ☐ Columbian Bolted Tank Catalog

FIRM NAME _____

ADDRESS _____

CITY _____ STATE _____



Strict Accuracy

Strict accuracy—important in most mechanical products—is IMPERATIVE in the manufacture of valves and fittings. Only hairbreadth accuracy in the fit of a valve seat or threads will hold fluids and gases at high pressures.

JARECKI Valves and Fittings for 85 years have been characterized by expert design and engineering and by the most painstaking accuracy in manufacture. Only this unfailing excellence in its products can explain the steady growth of the JARECKI business through these years.

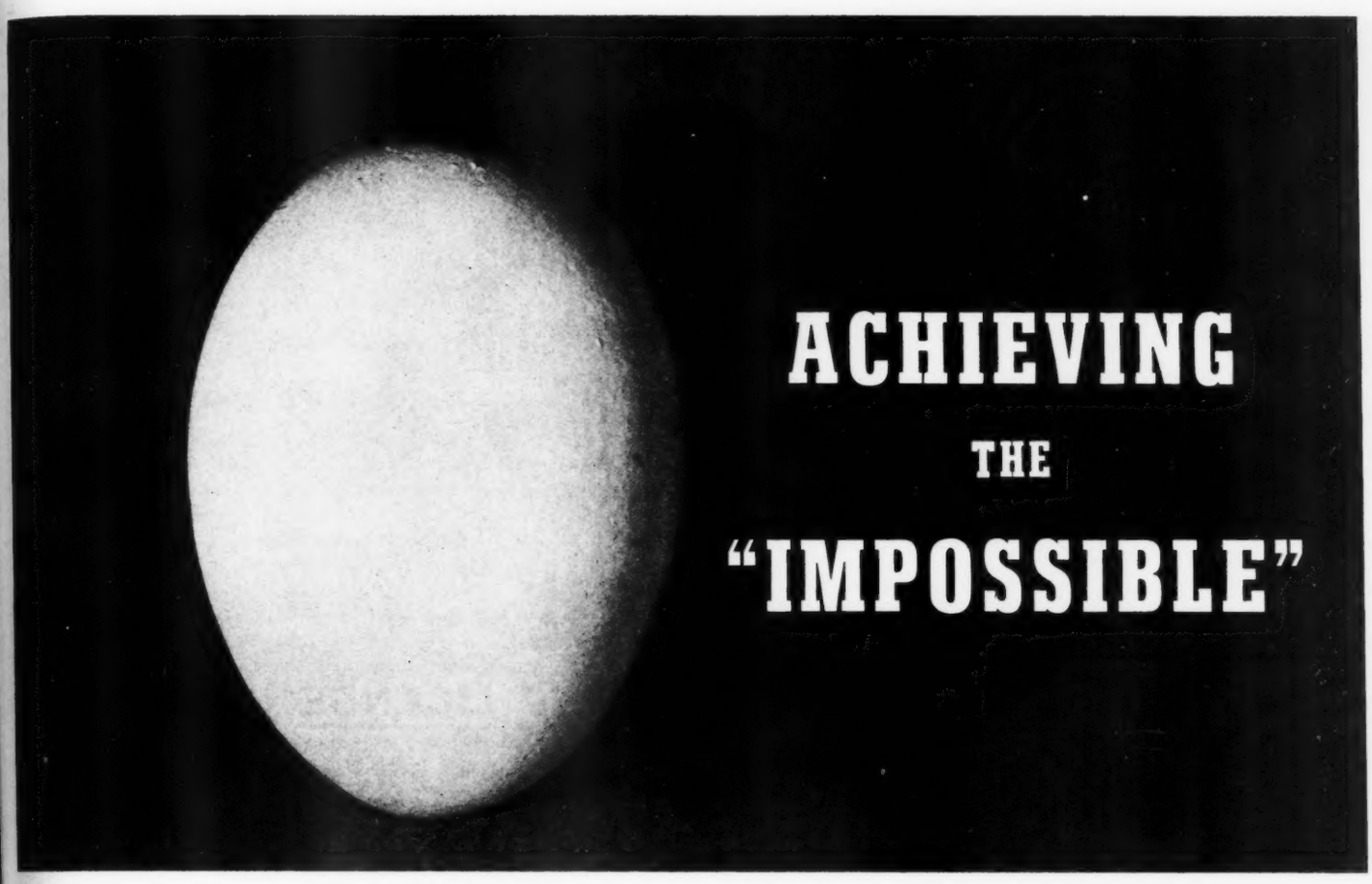
JARECKI merit is a "Time-Tested" attribute on which every buyer can *depend!* It means long life and satisfactory service, in valves and fittings.

See JARECKI Section in 1937 Composite Catalog

Jarecki
MANUFACTURING COMPANY
"Since 1852"

General Offices: St. Louis, Mo. Home Office and Factory: Erie, Pa., U.S.A.
District Offices: Pittsburgh, Pa.; Tulsa and Bartlesville, Okla.;
Mt. Pleasant, Mich.; Eastland and Dallas, Texas
Branch Stores at All Important Places in the Oil Country

Fig. 1007—1000-Lb. Test
500-Lb. O.W.G. Working Pressure



RIEBER SONOGRAPH SYSTEM

Columbus' *new approach* to the problem of making an egg stand on end enabled him to achieve the "impossible." *New approaches*, born of sound, technical knowledge and impatience with traditional limitations, are the stepping stones to scientific advancement.

By selecting that range of earth vibrations which is most effective for reflection exploration, and by treating them in their true character as *sounds*, the reflected waves are automatically recorded on film as sound-track by the most advanced sound-recording methods. The field data are later interpreted in the laboratory by a marvelously accurate, and unbiased, machine. Thus, the Rieber Sonograph system has contributed a *new* scientific approach to geophysics. Areas hitherto thought unshootable are mapped in detail; structures which produced "no reflections" by older methods are made to reveal themselves clearly by this system.

We solicit a discussion of your difficult problems of exploration.

1007 BROXTON AVENUE • LOS ANGELES, CALIF.
HOUSTON, TEXAS

★ FILTROL ★

OFFERS A PROTECTING LICENSE

to REFINERS

The very fact that leading refiners of lube oils have adopted and continue to use Super-Filtrol, is positive proof of the part it is playing in the scientific development of production methods. This activated bleaching clay makes possible a wider flexibility in processing and aids greatly in producing a superlative product.

The Filtrol Corporation guards carefully the rights of every Petroleum Refiner who purchases and uses Super-Filtrol in connection with Clarification, Neutralization and Decolorization of petroleum oil. Every package carries the genuine "Super-Filtrol" label and the marking on the package carries the following protective message:

> "The purchaser of this clay is licensed to employ it in the clarification, decolorization and neutralization of petroleum oil under the patents of Contact Filtration Company."

Those interested are invited to make inquiry regarding their particular requirements.

Address Department A

FILTROL CORPORATION

315 WEST FIFTH STREET, LOS ANGELES, CALIFORNIA

BRANCHES: New York • Philadelphia
EUROPEAN REPRESENTATIVE:
Dr. Hermann Bensmann
Postfache 482, Bremen, Germany

PLANTS: Los Angeles • Jackson, Miss.
ARGENTINE REPRESENTATIVE:
Rolando J. Longoni
441 Bme Mitre, Buenos Aires, Argentina